

Environmental Assessment

## *New I-79 Interchange*

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Morgantown, West Virginia



Prepared for:

U.S. Department of Transportation  
Federal Highway Administration

West Virginia Department of Transportation  
Division of Highways

December 2013

**BURGESS & NIPLE**

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NEW I-79 INTERCHANGE  
MONONGALIA COUNTY, WEST VIRGINIA

ENVIRONMENTAL ASSESSMENT

Submitted Pursuant to 42 USC 4332(2)(c)  
U.S. Department of Transportation  
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and

West Virginia Department of Transportation - Division of Highways

12/20/13  
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This proposed project consists of a new I-79 Interchange between the Star City and Westover interchanges in the Morgantown, West Virginia area. The new interchange will alleviate current congestion and provide capacity for future development along University Town Center Drive.

Comments on this Environmental Assessment are due by FEB 17 2014 and should be sent to:

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## EXECUTIVE SUMMARY

### ES.1 Project Description

The West Virginia Department of Transportation (WVDOT), in cooperation with the Federal Highway Administration (FHWA) are proposing to construct a new interchange on Interstate (I)-79 between Interchange No. 155 (Star City) and Interchange No. 152 (Westover). The purpose of the new interchange on I-79 is to reduce traffic conflicts, improve safety, and increase traffic capacity. The proposed new interchange will allow both freight and people to be moved efficiently and safely, to and from I-79. The Morgantown, West Virginia area, including Monongalia County and the Cities of Morgantown, Star City, Westover, and Granville are served by I-79 that runs north-south through the western part of the area. The two interchanges currently experience congestion during peak hours, and the congestion is expected to increase as the University Town Centre development continues to progress. The development is served by University Town Centre Drive which intersects with Monongalia County (County Road [CR]) 19/24 (Chaplin Hill Road) just to the east of the Star City interchange. **Figure 1** shows the current roadway network within the Morgantown area.

### ES.2 Purpose

The purpose of the project is to reduce traffic and congestion by improving the Level of Service (LOS) at the existing I-79 interchanges at Star City and Westover, improve safety by reducing crashes, and accommodate future traffic volumes that are consistent with local and regional land use plans.

### ES.3 Need

#### Reduce Traffic and Congestion

The Average Daily Traffic and the Average Peak Hour Traffic volumes were used to estimate the LOS for the Interstate, intersections, and the adjacent urban streets in the years 2015, 2025, and 2035 (preferred alternative only). A LOS "A" is the best where traffic is free flowing and drivers do not experience delays due to heavy traffic volumes. A LOS "F" is the worst case where drivers will experience delays of over 50 seconds to move through intersections or to enter/exit the interstate. The No Build LOS for intersections goes from a

range of B to F in 2015 to a range of D to F in 2025; Interstate LOS goes from a range of B to D in 2015 to a range of D to F in 2025; and the adjacent urban streets LOS goes from a range of C to E in 2015 to E or F in 2025. Over the next 10 years, the LOS goes from acceptable levels for most streets, intersections, and the Interstate to unacceptable levels (E and F) at most of the same locations.

### **Improve Safety**

Comparing the accident rates from January 1, 2009 to December 31, 2011 to the Statewide average crash rates, the accident rates in the project area exceeds the statewide averages on all routes. Within the project area, the injury accident rate was exceeded for all routes, except US 19. The accident rate for CR 19/24 (Chaplin Hill Road) was over five times the statewide average. There are existing issues with CR 19/24 area that cannot be addressed by this project. However, any improvement in the area that would draw traffic away from CR 19/24 can only have a positive impact to the current situation seen for CR 19/24.

### **Consistency with Local Land Use Plans**

The Morgantown Monongalia Metropolitan Planning Organization (MMMPO) has prepared land use plans for the County which shows the land adjacent to I-79 between the two interchanges as prime for development. With the development as proposed shown on **Figure 2**, additional traffic will be generated within the study area.

## **ES.4 Economic Conditions**

The developer of the University Town Centre has constructed about 50 percent of the development area to date on the east side of I-79. The developer has been working with the West Virginia University to construct athletic facilities as part of the development. The proposal includes a baseball field that will be adjacent to the extension of the University Town Centre Drive. The developer has identified additional parcels for the construction of additional office buildings, medical facilities, restaurants, motels, and gas stations along the extension of the University Town Centre Drive. The developer has also identified areas on the west side of I-79 between the existing interchanges that would be accesses by CR 19/24, CR 46/1, and CR 46/3. The start date for construction of the west side development has not been established but is expected to be started within the 20-year planning period. The

future west side development is reflected in the future traffic volumes for the urban streets west of I-79.

## ES.5 Preliminary Alternatives Considered

In addition to No-Build, three alternatives were evaluated in the Interchange Justification Report and Design Study and carried over into the Environmental Assessment. The No Build was used as the baseline for comparison of the alternatives.

A Traffic Management System (TMS) alternative was evaluated but was not carried forward as a standalone alternative since it would not meet the purpose and need. Parts of a TMS are included in the MMMPO's Long Range Transportation Plan and will be implemented as funding becomes available.

Two build alternatives were evaluated to determine if they meet the purpose and need of the project. One alternative was to provide additional capacity at the existing interchanges and the second was a new interchange halfway between the two existing interchanges that would tie directly to the extension of University Town Centre Drive.

**Upgrade of the existing interchanges at Westover and Star City and the adjacent urban streets alternative.** This alternative would require adding capacity to the eight existing ramps associated with the two interchanges to handle future traffic projections. Additional through and turn lanes would also be needed on US 19 at the Westover interchange and CR 19/24 at the Star City interchange. This requires all traffic accessing the existing and future development along University Town Centre Drive to use Exit 155 (Star City) and Chaplin Hill Road. This alternative would have the greatest impact to traffic during construction due to lane restrictions or possible ramp closures. This alternative does not allow for a second access point to the University Town Centre development from the south or west.

**New Interchange between Star City and Westover.** A new interchange would be positioned between the two existing interchanges with University Town Centre Drive extended to I-79 and intersecting with a relocated CR 46/3 at the west end of the project. This full directional interchange would take traffic off the existing interchanges improving the LOS at the existing interchanges through the 2025 planning period. This alternative would have the least impact during construction to the traveling public since there would

be no work at the existing interchanges. Temporary lane closures may occur on I-79 during the construction of the interchange which includes a bridge over the interstate. This alternative would result in the best LOS for the urban streets, interchange ramps, and intersections around the interchanges. As part of the Design Study, different interchange types were evaluated at the preliminary design level. The diamond interchange with a roundabout at the southbound ramps and University Town Centre Drive intersection was selected as the preferred alternative.

## ES.6 Environmental Impacts

A comparison of the impacts of the preferred alternative and the No Build is shown in **Table ES-1**.

**Table ES-1**  
**Summary of Impacts for the Preferred Alternative**  
**I-79 Study Area**

Resource/Element	No-Build Option	Build Preferred Alternative No. 3
<b>Residential/ Commercial Displacements</b>	0	0
<b>Earthwork</b>	0 cy	2,000,000 cy
<b>Land Area Impacted</b>	20 acres	51.37 acres
<b>Stream Impacts</b>	0 lf	2,426 lf
<b>Wetland Impacts</b>	0 acres	0.07 acres
<b>Noise Receptors Impacted</b>	0	0
<b>Terrestrial Habitats</b>	0 acres	40.2 acres
<b>Hazardous Waste Sites</b>	0	1 Acid Mine Drainage Line 9 Illegal Dump Sites
<b>Improved Access to Development</b>	No	Yes
<b>Environmental Justice Population</b>	No	No

cy = cubic yards  
 lf = linear feet

## ES.7 Preferred Alternative

As on the result of the preliminary evaluation and the Design Study, the new interchange using a diamond configuration with a roundabout at the southbound ramps was carried forward for environmental analysis as the preferred alternative. CR 46/3 will be moved

approximately 300 feet to the west of the roundabout to allow for access from University Town Centre Drive to the future development parcels between the southbound ramps and CR 46/3.

## CHAPTER 1 - INTRODUCTION AND PURPOSE AND NEED

### 1.1 Introduction

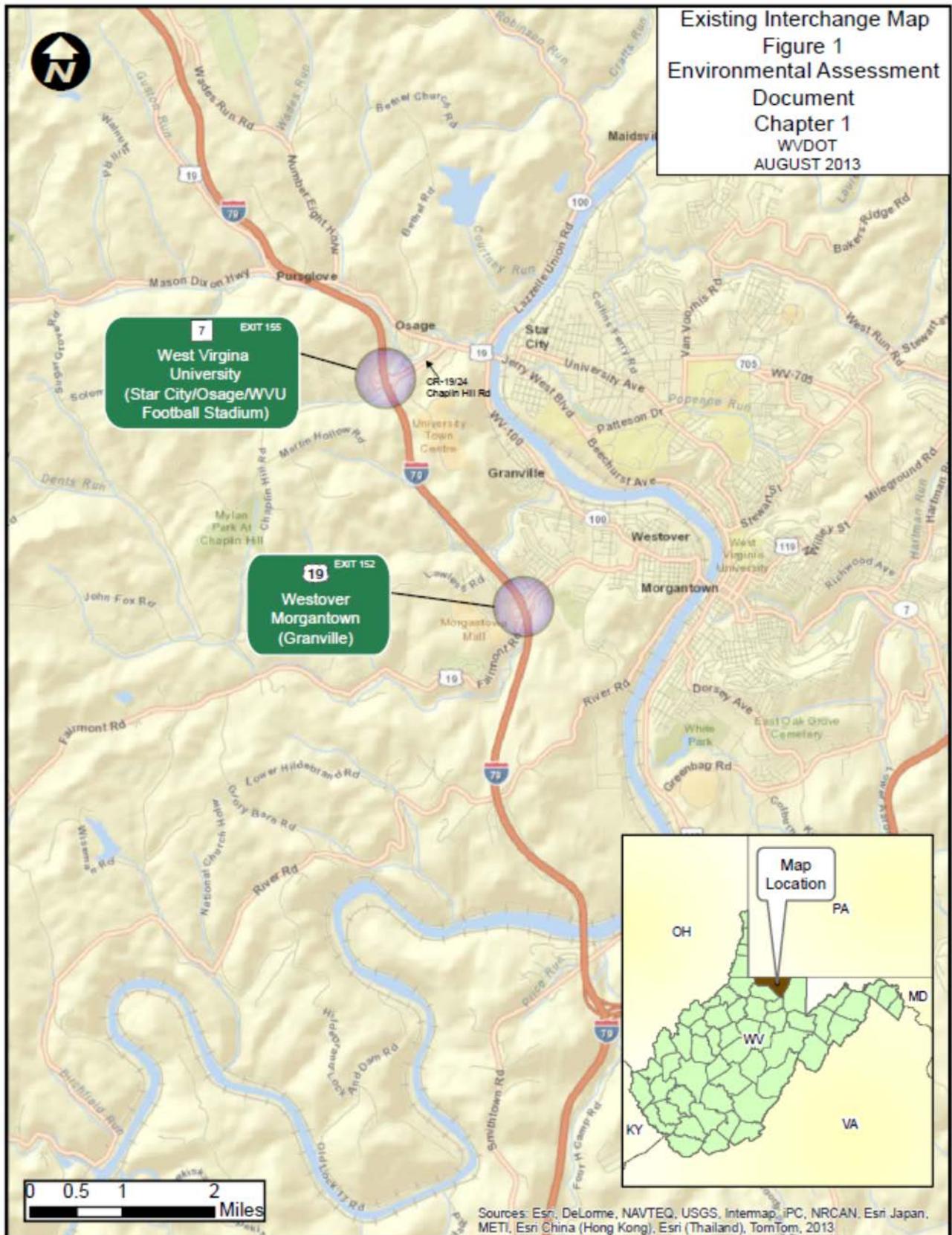
The West Virginia Department of Transportation (WVDOT), in cooperation with the Federal Highway Administration (FHWA) are proposing to construct a new interchange on Interstate (I)-79 between Interchange No. 155 (Star City) and Interchange No. 152 (Westover). The purpose of the new interchange on I-79 is to reduce traffic conflicts, improve safety, improve the Level of Service (LOS), and accommodate local land use planning documents. The proposed new interchange will allow both freight and people to be moved efficiently and safely, to and from I-79.

#### 1.1.1 Existing Highway Network

The Morgantown, West Virginia area, including Monongalia County and the Cities of Morgantown, Star City, Westover, and Granville are served by I-79 that runs north-south through the western part of the area. The two interchanges currently experience congestion during peak hours, and the congestion is expected to increase as the University Town Centre development continues to progress. The development is served by University Town Centre Drive which intersects with Monongalia County (County Road [CR]) 19/24 (Chaplin Hill Road) just to the east of the Star City interchange. **Figure 1** shows the current roadway network within the Morgantown area.

#### 1.1.2 University Town Centre and Long Range Development Plan

The developer of the University Town Centre has constructed about 50 percent of the development area on the east side of I-79 to date. The developer has identified the remaining area on the east side for office buildings, medical facilities, restaurants, hotels, and gas stations along the extension of the University Town Centre Drive. The developer has been working with West Virginia University to include athletic facilities as part of the development. The University proposal includes a baseball field and a multi-use athletic facility. The developer has also identified areas on the west side of I-79 between the existing interchanges that would be accessed by CR 19/24, CR 46/1, and CR 46/3. The start date for construction of the west side development has not been established but is expected to be started within the 20-year planning period. The future west side development is reflected in the future traffic volumes for the urban streets west of I-79.



### 1.1.3 Project Funding

A Tax Increment Financing (TIF) district has been approved for the University Town Centre Development (mostly on the east side of I-79) by the Legislature of West Virginia passed as Senate Bill 1001 on April 17, 2013 and signed by the Governor on April 30, 2013. The TIF was established to assist with infrastructure improvements. The project is supported by the Monongalia County Commission, Greater Morgantown Chamber of Commerce, and the Monongalia Metropolitan Planning Organization (MMMPO). The project is also listed on the Draft MMMPO Transportation Improvement Program (TIP) FY 2013-FY 2017. The project's projected funding as listed in the TIP is through the National Highway Performance Program (NHPP) with \$1.1 Million for engineering (2013), \$1.1 Million for right-of-way (2014), and \$1.1 Million for construction (2014).

## 1.2 Purpose

The purpose of the project is to reduce traffic and congestion by improving the LOS at the existing I-79 interchanges at Star City and Westover, improve safety by reducing crashes, and accommodate future traffic volumes that are consistent with local and regional land use plans.

## 1.3 Need

### 1.3.1 Reduce Traffic and Congestion

The West Virginia Department of Highways (WVDOH) has developed Average Daily Traffic (ADT) forecasts for the No Build is summarized below in **Table 1-1**. This shows that the traffic volumes will continue to increase even with no improvements to the existing interchanges and the adjacent urban streets.

**Table 1-1**  
**No Build Average Daily Traffic Volumes**

Roadway Segments	2015	2035
I-79 (Between Westover and Star City)	48,214	76,250
CR 19/24 (Chaplin Hill Road - East of I-79)	35,121	46,327
US 19 (Fairmont Road - East of I-79, Westover)	23,167	39,340
CR 49/3 (Martin Hollow - Westover )	693	8,209

The ADT and the Peak Hour Traffic volumes were used to estimate the LOS for the Interstate, intersections, and the adjacent urban streets in the years 2015, 2025, and 2035 (preferred alternative only). A LOS "A" is the best where traffic is free flowing and drivers do not experience delays due to heavy traffic volumes. A LOS "F" is the worst case where drivers will experience delays of over 50 seconds to move through intersections or to enter/exit the interstate. The LOS continues to decline over the 10-year period to the point that certain intersections, ramps, and streets are at an unacceptable level of E and F. The LOS tables are included in Chapter 2.

### 1.3.2 Improve Safety

WVDOT reviewed the crash history for a 3-year period from January 1, 2009 to December 31, 2011. The roads and interstate included in the crash analysis are:

- North and southbound I-79 between the Star City and Westover Interchanges
- East and westbound US 19
- North and southbound CR 49
- West and eastbound CR 19/24
- North and southbound CR 49/1.

The number of crashes during the three-year period was:

- 121 crashes on I-79 (1 fatality)
- 610 crashes on US 19
- 16 crashes CR 49
- 95 Crashes CR 19/24
- 9 crashes CR 49/1.

Comparing the accident rates from January 1, 2009 to December 31, 2011 to the Statewide average crash rates, the accident rates in the project area exceeds the statewide averages on all routes. Within the project area, the injury accident rate was exceeded for all routes, except US 19. The accident rate for CR 19/24 (Chaplin Hill Road) was over five times the statewide average. We are aware that there are existing issues with the CR 19/24 area that cannot be addressed by this project. However, any improvement in the area that would draw traffic away from CR 19/24 can only have a positive impact to the current situation

seen for CR 19/24. The accident and injury rates shown for CR 49/1 are exaggerated due to the low ADT.

Under No Build, congestion will worsen over the years as traffic volumes increase, the number of crashes will likely increase.

### **1.3.3 Consistency with Local Land Use Plans**

The MMMPO has prepared land use plans for the County which shows the land adjacent to I-79 between the two interchanges as prime for development. With the development as proposed shown on **Figure 2**, additional traffic will be generated within the study area.



The traffic projects by WVDOT indicate the potential development area will be 100 percent built out over the next 10 years. In addition, a reasonably foreseeable future development will occur to the west of CR 46/3. These traffic volumes have been included in the 2035 traffic projects. The development and the projected land uses are consistent with the MMMPO plans.

## CHAPTER 2 - ALTERNATIVES

Three alternatives were considered along with No Build to address the purpose and need of the project. The most feasible solutions to address current congestion, safety and accommodate the future traffic volumes from identified in regional plans were evaluated. The alternatives investigated included Transportation Management Systems, capacity improvements at the existing interchanges, and construction of a new interchange. The impacts of the preferred alternative will be further discussed in following chapters.

### 2.1 No-Build

The No-Build requires the existing highway and roadway infrastructure to remain as is. Only maintenance of the existing roadways would be carried out over the next 20 years. The existing interchanges at Star City and Westover will handle greater traffic volumes resulting in drivers experiencing long delays to exit or enter the interstate due to the increased congestion by the design year of 2025. The projected LOS for the interstate (**Table 2.1**), Urban Streets (**Table 2.2**), and Intersections (**Table 2.3**) for the opening year (2015) and the 10-year after opening year (2025) was determined by WVDOT<sup>1</sup>.

**Table 2-1**  
**I-79 LOS Under No Build**

Location	LOS 2015 E+C	LOS 2025 E+C
I-79 NB	B	F
I-79 SB	C	E
I-79 NB Diverging	E	E
I-79 NB Merging	D	E
I-79 SB Diverging	B	E
I-79 SB Merging	B	D

E+C- existing plus committed development

<sup>1</sup> West Virginia Department of Transportation Division of Highways, *Interchange Justification Report for the I-79/Morgantown Interchange, Monongalia County, West Virginia*, December 2013.

**Table 2-2  
 Urban Streets LOS Under No Build**

Location	LOS 2015 E+C	LOS 2025 E+C
Chaplin Hill Road EB	E	F
Chaplin Hill Road WB	E	E
US 19 EB	C	E
US 19 WB	C	E

E+C- existing plus committed development

**Table 2-3  
 Intersection LOS Under No Build**

Location	LOS 2015 E+C	LOS 2025 E+C
I-79 Exit 155 NB Ramp @ Chaplin Hill Road	F	F
I-79 Exit 155 SB Ramp @ Chaplin Hill Road	E	F
Chaplin Hill Road @ Monongahela Blvd	F	F
Chaplin Hill Road and University Town Centre Drive	D	F
I-79 Exit 152 SB Ramp @ US 19	B	E
I-79 Exit 152 NB Ramp @ US 19	B	D

E+C- existing plus committed development

The I-79 mainline and the existing ramps will become more congested as the number of vehicles increases thus traffic modeling shows LOS "E" and "F" which indicates major delays. The same holds true for the existing urban streets and intersections that connect to the interstate.

With No build, there will be no construction so no environmental impacts associated with construction activities will occur. The No Build does not address the existing and future congestion causing greater delays and increased accident potential, and possible loss of

future development opportunities as included in the local land use planning documents. For these reasons, the No Build is not recommended.

## 2.2 Transportation System Management (TSM)

The TSM includes making improvements to the existing highway and roadway system to optimizing traffic flow without undertaking major construction projects. The TSM may include modernized signals/signal progression, access management throughout the roadway network, the use of high occupancy vehicle (HOV) lanes, and electronic messaging. The MMMPO has developed the *2013-2040 Long Range Transportation Plan*<sup>2</sup> (LRTP) that identified projects to be funded over the next 27 years to maximize the current roadway network. TSM has been implemented on I-79 with message boards as vehicles approach the Morgantown interchanges from the north and south. No such TMS messaging components have been implemented on the non-interstate roadways within the project area. The LRTP has identified a Region-Wide Traffic Signal Upgrades as an aggressive short-term plan to upgrade all signals to utilize state-of-the-art vehicle detection and vehicle responsiveness systems, corridor and system timing optimization, and a central system control.<sup>3</sup> These projects will be funded over a period of years.

TSM may include improvements and expansion of the transit systems, improved non-vehicular access, and institute complete streets or “road diets” without undertaking major road construction projects. Expansion of the transit system will rely on federal funding and the needs expressed by the ridership. No expansion is envisioned at this time. The LRTP addresses the pedestrian and bicycle improvements throughout the entire Monongalia County area. As new roads are constructed or existing roads reconstructed, the complete streets scenario will be addressed at that time. At this time, there are no projects specifically within the study area to improve transit, pedestrian, or bike facilities.

The use of TSM will continue to be implemented throughout the roadway network, but TSM alone will not be able to improve efficiencies, eliminate the current and future congestion within the study area, improve safety, and address future traffic volumes consistent with the Regional Plan. This alternative was not carried forward as a standalone alternative since it does not meet the purpose and need of the project.

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<sup>2</sup> 2013-2040 Long Range Transportation Plan, MMMPO, Prepared by Burgess & Niple, Inc, 2013.

<sup>3</sup> 2013-2040 Long Range Transportation Plan, MMMPO, Prepared by Burgess & Niple, Inc, 2013, page 9-4.

## 2.3 Build Alternatives

Two Build alternatives were investigated for the EA Document and the Interchange Justification Report. One is the addition of capacity at the existing interchanges at Star City and Westover and the other is a new interchange located half way between the two existing interchanges.

### 2.3.1 Design Criteria for Build Alternatives

All of the build alternatives will follow the geometric design guidelines established in the American Association of State Highway and Transportation Officials' (AASHTO) *A Policy on Geometric Design of Highways and Streets*, 6th Edition, 2011, or when applicable, AASHTO's *Geometric Design of Very Low-Volume Local Roads (ADT ≤ 400)*, AASHTO, Washington, D.C., 2001. The study of the bridge structure will be based on Load and Resistance Factor Design (LRFD) in accordance with the AASHTO "*LRFD Bridge Design Specifications, 2012*" and latest interim revisions and the WVDOT *Bridge Design Manual*, dated March 1, 2004 with any revisions.

The I-79 mainline roadway typical section will remain as two pairs of 12-foot lanes separated by a 40-foot grass median. No improvements are considered to the mainline.

**Table 2-4**  
**Design Criteria**

Roadway	Classification	Design Speed	Maximum Grade
Interstate 79	Arterial, rural	70 mph	No Change
Interchange Ramps	Ramps	varies	8%
University Town Centre Drive	Urban Collector	35 mph	10%
Monongalia County (CR) 46/3	Rural Collector	30 mph	10%

### 2.3.2 Modify the Existing Interchanges

The City of Morgantown and the surrounding Monongalia County area is served by two existing I-79 Interchanges, the north Interchange No. 155 (Star City) with CR 19/24 (Chaplin Hill Road) and the southern Interchange No. 152 (Westover) with US 19 (Fairmont Road).

The north interchange serves the Cities of Star City and Morgantown and West Virginia University. Approximately 0.5 mile east of the interchange, CR 19/24 intersects with US 19/State Route (SR) 7. On Chaplin Hill Road between the Interchange 155 and US 19/SR 7 is the intersection with the University Town Centre Drive. The existing interchange ramps at Chaplin Hill Road operates at a LOS of B during the peak hour and by the year 2025, the interchange is projected to operate at a LOS E for the north and southbound diverge and D for the southbound merge with no improvements. Based on the projected LOS of the interchange and the adjacent intersections and urban streets that serve Star City, Morgantown, and the University Town Centre Drive development, Interchange No. 155 would have to be improved to provide:

- Additional eastbound turn lanes on Chaplin Hill Road.
- Additional westbound turn lanes on Chaplin Hill Road at both the south and northbound ramps on I-79.
- New right turn lane on southbound I-79 ramp.
- New turn lanes on Malone Drive.
- Realign the northbound exit ramp from I-79.
- Signalize the southbound ramps at Chaplin Hill Road.
- Signalize the northbound ramps at Chaplin Hill Road.
- New driveway across from the southbound ramps to serve the new development.

Since the Westover exit does not have a connection to the University Town Centre Drive and the proposed development, no improvements would be made to the existing ramps and US 19. This interchange will operate as shown in the No Build tables. **Tables 2-5 to 2-7** show the LOS for the upgraded the existing interchange alternative.

**Table 2-5  
 I-79 LOS Adding Capacity**

Location	LOS 2015 E+C	LOS 2025 E+C
I-79 NB	B	F
I-79 SB	C	E
I-79 NB Diverging	B	E
I-79 NB Merging	B	E
I-79 SB Diverging	B	E
I-79 SB Merging	B	D

E+C- existing plus committed development.

**Table 2-6  
 Urban Streets LOS Adding Capacity**

Location	LOS 2015 E+C	LOS 2025 E+C
Chaplin Hill Road EB	D	F
Chaplin Hill Road WB	D	E
US 19 EB	B	E
US 19 WB	B	D

E+C- existing plus committed development

**Table 2-7  
 Intersection LOS Adding Capacity**

Location	LOS 2015 E+C	LOS 2025 E+C
I-79 Exit 155 NB Ramp @ Chaplin Hill Road	C	E
I-79 Exit 155 SB Ramp @ Chaplin Hill Road	D	F
Chaplin Hill Road @ Monongahela Blvd	F	F
Chaplin Hill Road and University Town Centre Drive	D	F
I-79 Exit 152 SB Ramp @ US 19	C	E
I-79 Exit 152 NB Ramp @ US 19	B	D

E+C- existing plus committed development

The reconstruction of the existing interchange to handle the future traffic volumes is the only alternative that would require the relocation of residences. Depending on the side of the road that would be widened, relocation of businesses could also be required. By 2025, WV DOT will need to assess the I-79 mainline to see if additional capacity is needed. The urban streets and the intersections around the interchanges will need additional improvements to operate at a LOS D or better by the year 2025. This alternative would require less right-of-way acres compared to the new interchange alternatives, but would impact a greater number of private property owners. This alternative would also have the greatest impact of all alternatives to the traveling public during construction. This alternative will require ramps, lanes, and roadway closures resulting in increased travel times and distances until construction is completed.

One other major drawback to this alternative is that the development along University Town Centre Drive will have only the one current access point at the intersection of Chaplin Hill Road and University Town Centre Drive. All traffic will have to use that one intersection to access the development. In the short term, this alternative would allow for development to continue as identified in the Regional Plans.

Based on the amount of potential right of way needs from private landowners, possible residential and business relocations, travel delays during construction, only address congestion and safety to 2025, and only one access point to the development, this alternative was not carried forward.

### 2.3.3 Construct a New Interchange

The new interchange alternative will position the interchange location between the two existing interchanges and allow connection to a relocated CR 46/3 to the west of the interchange and an extension of University Town Centre Drive to the east of the interchange.

The developers of the University Town Centre on the east side of the interstate own the land on the west of I-79, and has long-range plans to develop the area west of CR 46/3 into a mixed land use development. Development will occur on lots between the interchange and CR 46/3 as part of the current build plan for the east side of the interchange.

The traffic volumes have been projected for the opening year and the design year for the adjacent interchanges as well as the proposed new interchange. The ADT forecasts are summarized below in **Table 2-8**.

**Table 2-8**  
**New Interchange**  
**Average Daily Traffic Volumes**

Roadway Segments	2015	2035
I-79 (Between New I/C and Star City)	52,544	57,654
I-79 (Between Westover and New I/C)	57,028	81,541
CR 19/24 (Chaplin Hill Road - Star City)	27,929	30,778
US 19 (Fairmont Road, Westover)	20,003	40,525
CR 49/3 (Martin Hollow) North of New I/C	6,815	7,963
CR 49/3 (Martin Hollow) South of New I/C	1,644	11,300

The WVDOT Division of Highway have projected the LOS for the construction of the new interchange for the opening year 2015, the 10 year design period 2025, and the design year 2035 in the Interchange Justification Report (IJR)<sup>4</sup>. The Division of Highway only prepared 2035 LOS for the new interchange alternative. All of the other alternatives and No Build were only projected to 2025. In the IJR the new interchange connector road is referred to as “Mountaineer Park Connector” which is the same road as used in this document “University Town Centre Drive”. The developer will be using University Town Centre Drive as the official name of the connector road. This evaluation is based on no changes to the two existing interchanges. The LOS is shown on **Tables 2-9 to 2-11**.

**Table 2-9  
 I-79 LOS New Interchange**

<b>Location</b>	<b>LOS 2015 E+C</b>	<b>LOS 2025 E+C</b>	<b>LOS 2035 100% Build</b>
I-79 NB between new Interchange (I/C) and Exit 155	B	C	E
I-79 NB merge between new I/C & Exit 155	B	C	C
I-79 NB diverge between new I/C & Exit 155	B	C	D
I-79 NB between Exit 152 & new I/C	A	C	F
I-79 NB merge between Exit 152 & new I/C	B	C	E
I-79 NB diverge between Exit 152 & new I/C	B	C	E
I-79 SB between Exit 155 & new I/C	C	C	D
I-79 SB merge between Exit 155 & new I/C	B	B	D
I-79 SB diverge between Exit 155 & new I/C	B	C	E
I-79 SB between new I/C and Exit 152	C	C	E
I-79 SB merge between new I/C and Exit 152	C	D	E
I-79 SB diverge between new I/C and Exit 152	C	D	E

E+C- existing plus committed development.

<sup>4</sup> West Virginia Department of Transportation Division of Highways, *Interchange Justification Report for the I-79/Morgantown interchange, Monongalia County, West Virginia*, December 2013.

**Table 2-10**  
**Urban Streets LOS New Interchange**

Location	LOS 2015 E+C	LOS 2025 E+C	LOS 2035 100% Build
Chaplin Hill Road EB	C	F	F
Chaplin Hill Road WB	D	D	F
US 19 EB	B	C	D
US 19 WB	C	C	D
University Town Centre Drive EB	B	C	D
University Town Centre Drive WB	B	C	D

E+C- existing plus committed development

**Table 2-11**  
**Intersection LOS New Interchange**

Location	LOS 2015 E+C	LOS 2025 E+C	LOS 2035 100% Build
I-79 Exit 155 NB Ramp @ Chaplin Hill Road	B	D	F
I-79 Exit 155 SB Ramp @ Chaplin Hill Road	D	E	F
Chaplin Hill Road @ Monongahela Blvd	F	F	F
Chaplin Hill Road and University Town Centre Drive	D	D	F
I-79 Exit 152 SB Ramp @ US 19	C	C	D
I-79 Exit 152 NB Ramp @ US 19	B	C	E
New I/C NB ramp @ University Town Centre Drive	B	B	C
New I/C SB ramp @ University Town Centre Drive	A	B	D

E+C- existing plus committed development

The LOS evaluation indicates that with the new interchange the I-79 mainline, the existing interchanges, and the urban streets will operate at a higher LOS than the No build and upgrading the existing interchange alternative. The University Town Centre Drive will intersect with the new interchange ramps. All of the new interchange ramps will operate at a LOS A, B, or C through 2025.

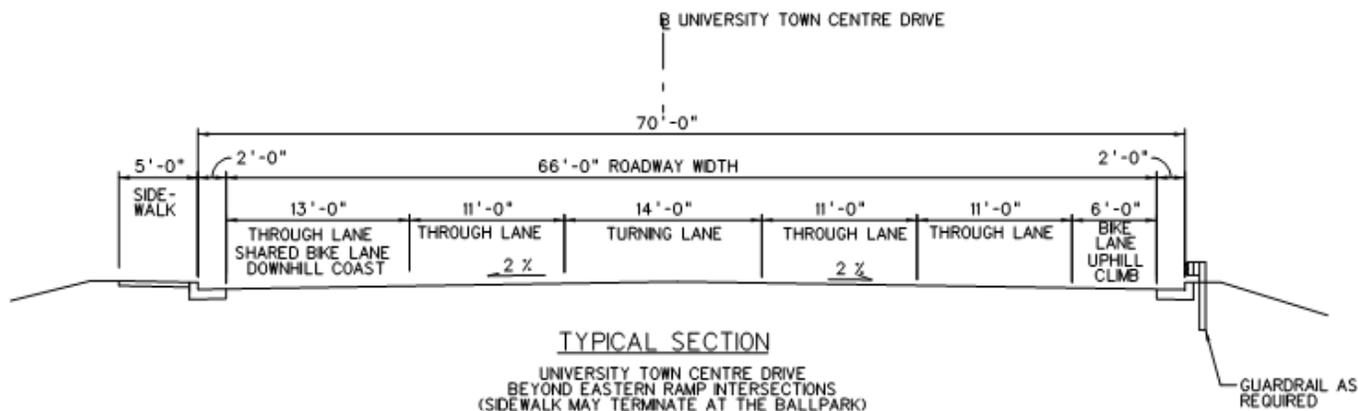
With the new and existing road network operating at the same LOS or better than the No Build and the upgrade the existing interchanges alternative, this alternative will address the congestion and safety concerns as stated in the purpose and need. This alternative will allow for additional connections to the University Town Centre Drive from I-79 and CR 46/3 Martin Hollow Road.

The construction of the project will only impact land currently owned by the private development group. The area within the footprint of the interchange has no residents or businesses so no relocations are required. The land was previously disturbed by mining activities. The transformation of the mined land to developable land is consistent with the Regional Plans.

### 2.3.4 New Interchange Types

During the preliminary engineering stage, a series of alternatives were evaluated for the new interchange. The design requirements as stated in Section 2.3.1 were followed for the design of the new interchange. A total of 7 interchange configurations were evaluated during the preliminary engineering stage. The detailed analysis of the interchange types was included in the Burgess & Niple, Inc. (B&N) *New I-79 Interchange Design Study* dated November 2013.

All of the alternatives include a shared bicycle lane for the westbound and a dedicated bicycle lane for the eastbound as well as a sidewalk along the north side of University Town Centre Drive. The typical cross section of University Town Centre Drive east of the interchange is shown below.

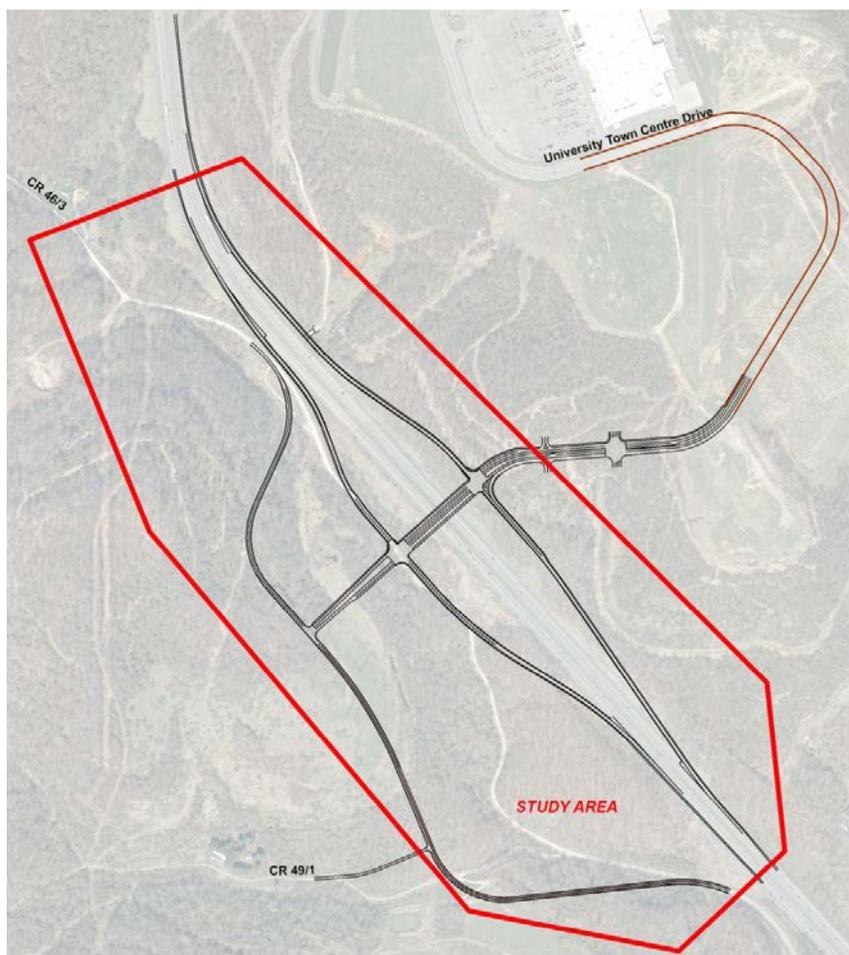


Typical cross-sections of University Town Centre Drive and the County Routes are shown on the plan sheet in **Appendix G**.

All of the new interchange types were designed to accommodate the design traffic as proposed by WVDOT. All interchanges would accommodate full access to the interstate. This means that each type will meet the purpose and need by reducing congestion and improving safety within the project area as discussed previously in this section. Each of the following interchange descriptions gives basic information about the interchange type and advantages and disadvantages of each as presented in the *Design Study*. All of the new interchanges include relocating CR 46/3 to the west to intersect with University Town Centre Drive west of the interchange. The location of the interchange and the amount of fill required to construct the project will require placing the unnamed tributary to Dents Run in a culvert for each interchange type. A small wetland will also be impacted by each of the new interchange types.

### 2.3.4.1 Tight Diamond Interchange

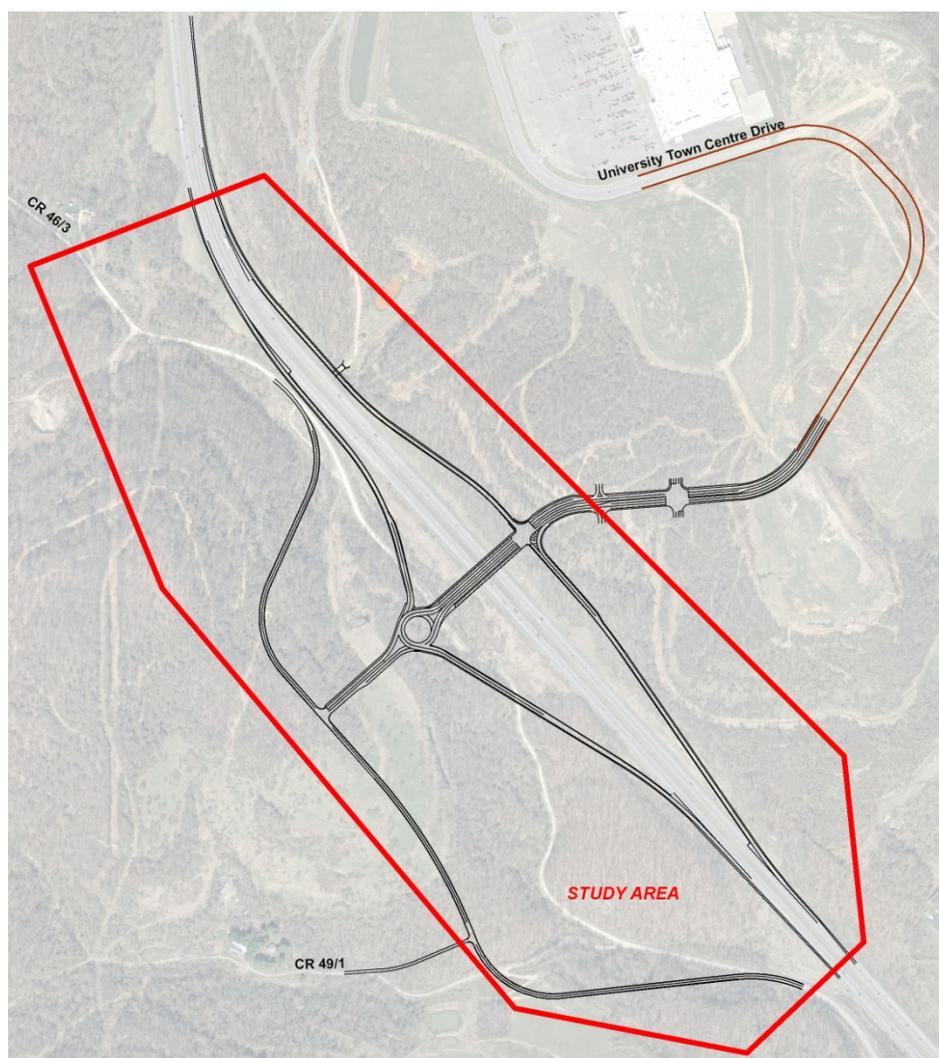
The tight diamond interchange provides 400 feet of separation between the ramp intersections along university town Centre Drive. Holding the ramps horizontally close to the interstate provides the maximum area of developable property. Both ramp intersections will be signalized. The bridge over I-79 will have a length of 356 feet and carry five lanes of traffic. The bridge will carry a single through lane eastbound and single through lane westbound, with a single eastbound left turn lanes onto the northbound entrance ramp



and dual left turn lanes westbound onto the southbound entrance ramp. The 78-foot roadway width on the bridge will accommodate one additional future eastbound lane with the potential of providing a second left turn lane to the northbound entrance ramp. The exit ramps expand to two lanes at the intersections with a continuous right turn lane from the northbound exit ramp. All Right-of way takes will be acquired from the developer, Mon-View, LLC. The Tight Diamond Interchange is a viable alternative and was carried forward for additional evaluation.

### 2.3.4.2 Diamond Interchange with Roundabout

This type is similar to the tight diamond but utilizes a roundabout to replace the signal at the southbound ramp intersection.



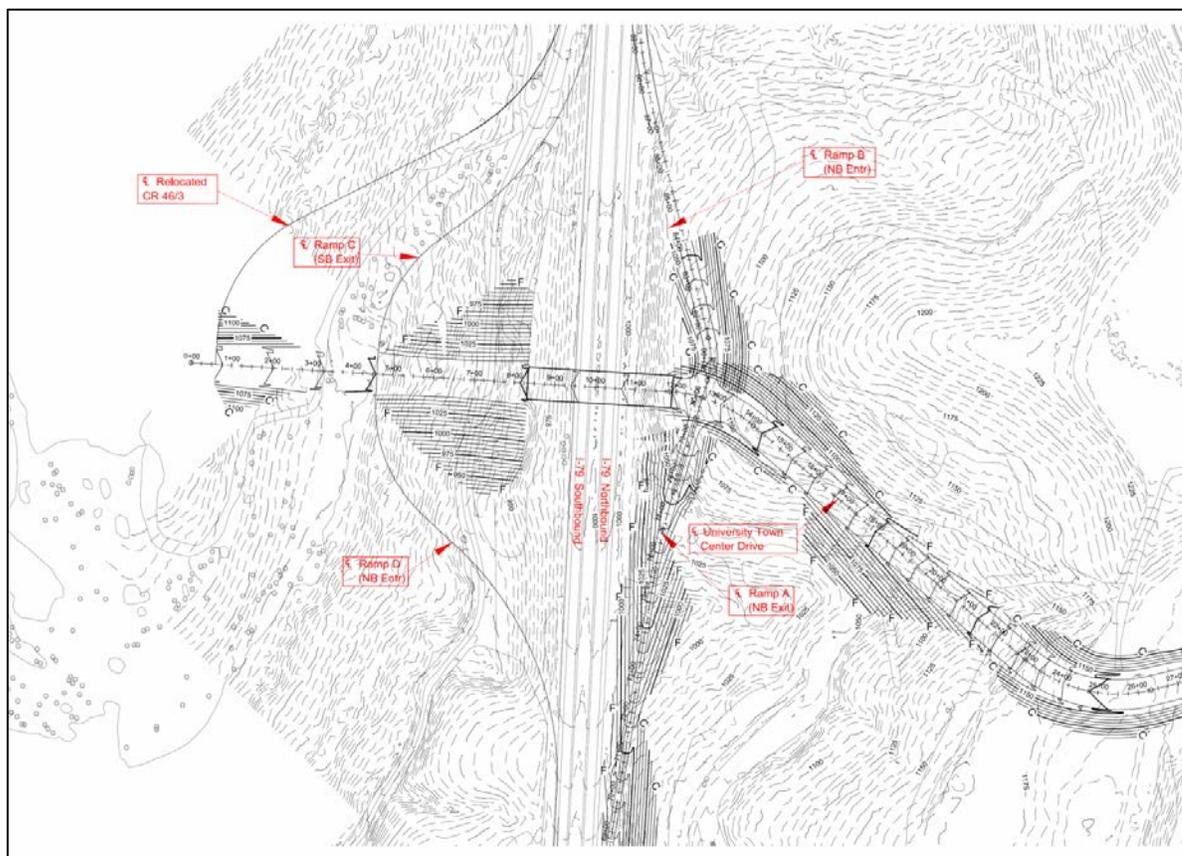
The bridge will still have a length of 356 feet, as the case in the tight diamond. However, the bridge will only need to carry four lanes of traffic, one less lane compared to the tight diamond because the presence of the roundabout means independent dual left turn lanes westbound to southbound are not required. The goal was to provide better access management by promoting right-in right-out access on the east side of the interchange and allow

travelers to go through the roundabout to essentially negotiate the left-turn movement.

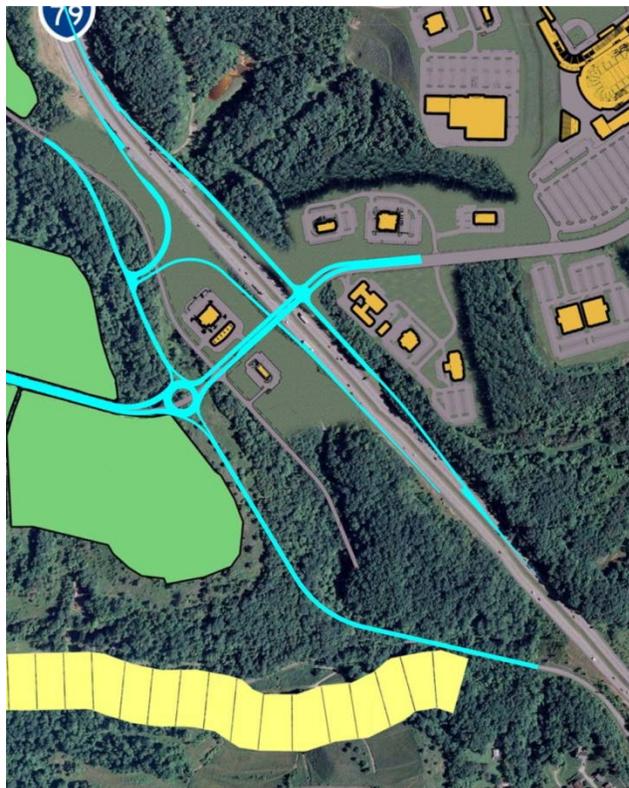
The diamond interchange with a roundabout is a viable alternative and has been carried forward for additional evaluation.

### 2.3.4.3 Wide Diamond Interchange

The wide diamond interchange increases the spacing between the ramp intersections to 800-foot along University Town Centre Drive. Spreading the ramps allows both intersections to reduce to single left turn lanes onto the entrance ramps which will reduce the width of the bridge. However, the developable property is negatively impacted and cut excavation is increased with the relocation of CR 46/3 farther to the west than the previous tight diamond types. Additional right-of-way will be required for CR 46/3 as compared to the previous two interchanges. Due to the loss of developable land, impacts to property not owned by the developer thus increasing the right-of-way costs, the wide diamond interchange is not a viable option. Therefore, no further investigation was performed and is not carried forward.



### 2.3.4.4 Split Diamond Interchange

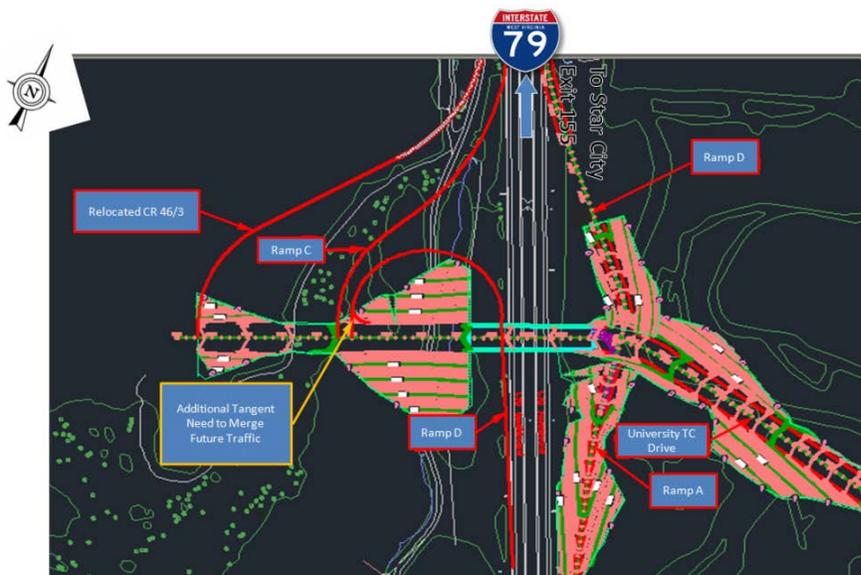


The split diamond interchange eliminates one of the intersections on the University Town Centre Drive by using CR 46/3 to tie in the ramps. This would allow for a narrower bridge section but would require additional lanes on CR 46/3 and additional intersections on CR 46/3. Upon further investigation, the access management into the west side development pads became an issue. The connection of the northern portion of CR 46/3 would need to be eliminated to make the traffic scheme feasible, but CR 46/3 will need to remain. The boundary of the limited access may have become an issue with development inside of the ramp connections. The relocation of the north end of CR 46/3 will impact land not owned by the developer and was previously used for a landfill.

For these reasons, the split diamond interchange is not a viable option. Therefore, no further investigation was performed and not carried forward.

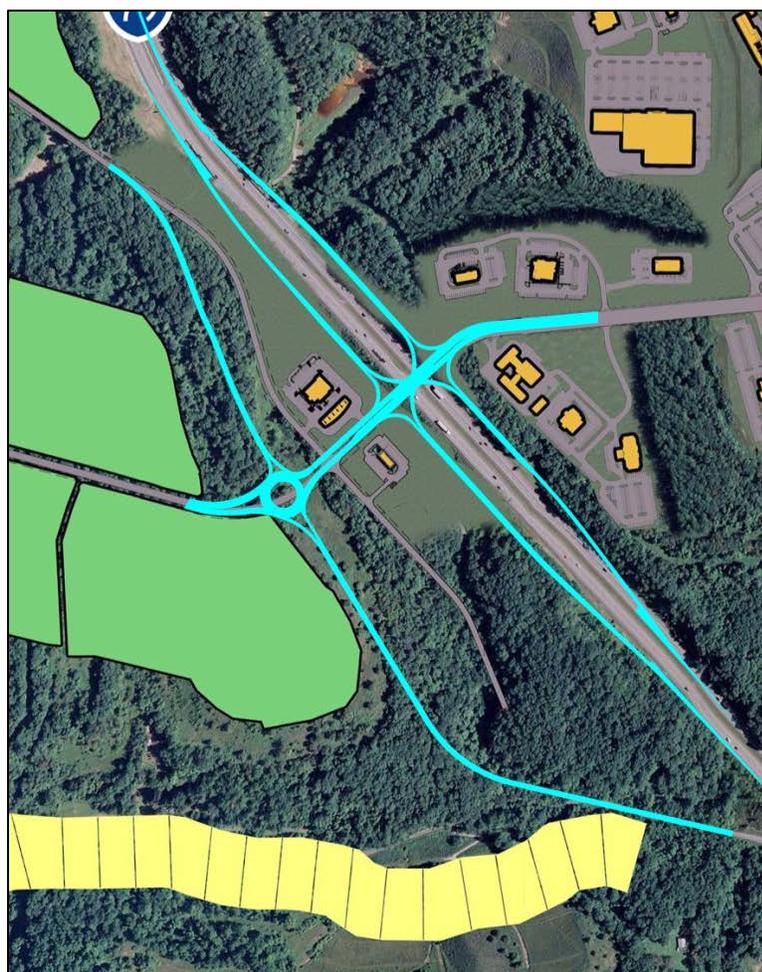
### 2.3.4.5 Trumpet for Ramp D

A loop ramp for the southbound entrance traffic (Ramp D) would eliminate the need for left turn lanes on the bridge. The issue arises with merging traffic on the loop ramp. A tangent section of several hundred feet would be needed prior to beginning the loop to allow two lanes



of traffic on the ramp to merge into a single lane prior to merging onto I-79. Another option would be to carry a two-lane loop ramp then merge it down to a single lane prior to merging it on the interstate. However, two-lane loop can cause safety concerns where heavy truck traffic is present due to off-tracking and vehicular conflicts. Also, the loop occupies valuable real estate for development. Similar to the previous alternative (split diamond), additional right-of-way would be needed for relocation of CR 46/3. The Trumpet for Ramp D is not a viable option due to the ramp and right-of-way concerns. Therefore, no further investigation was performed and not carried forward.

#### 2.3.4.6. Single Point Urban Interchange



Although a single point urban interchange may offer operational benefits to the interchange by decreasing the number of intersections, this type of interchange would have the highest cost compared to other types evaluated. Due to the mountainous terrain at this location, the overpass bridge needs to be approximately 60 feet above the interstate. The profile of the University Town Centre Drive climbs at 8 percent to reach the development pad elevations. The cost increase for the additional bridge area and wall-type abutments required for a single point urban interchange would be magnified at this location. The single point is not a viable option. Therefore, no further investigation was performed and

this interchange type is not being carried forward.

### 2.3.4.7 Diverging Diamond Interchange

Although a diverging diamond interchange would provide very good traffic operations and a low number of potential conflict points at the intersections, it has high adjacent property impacts and is a relatively new type of interchange that has not been designed or constructed in West Virginia. This interchange type does not allow for access points near the interchange to accommodate the independent right turn lanes thus decreasing the area available for development. The short distance between ramp intersection and CR 46/3 intersection combined with the curved approach constrains



developing the area between the CR and the ramps. Diverging diamond interchange is not a viable option. Therefore, no further investigation was performed and Alternative 8 was not carried forward.

## 2.4 Preliminary Impact Analysis

The WVDOT reviewed the preliminary new interchange types as described above and as discussed in the *New I-79 Interchange Design Study* decided that many of the interchanges would reduce the amount of developable land adjacent to the interchange due to approach roadway alignments and driveway restrictions to support the TIF District. Alternatives that tie the south bound ramps to County Road 46/3 will create a safety concern as the land on the west side of CR 46/3 develops. Alternatives with loop ramps create a safety concern with large trucks as they negotiate the curve on a steep grade. While not directly related to the purpose and need for the project, alternatives using the Split Diamond configuration for the south bound ramps will require the relocation of CR 46/3 further north on to property not owned by the developer that was a former landfill. Based on this preliminary

review, two interchange types were carried forward for additional evaluation, the tight diamond and the diamond with a roundabout at the southbound ramps.

## 2.5 Recommended Preferred Alternative

In the Design Study, the evaluation of the tight diamond and the diamond with a roundabout were investigated. Both meet the purpose and need and both maximize developable land adjacent to the interchange. The biggest difference was the use of a roundabout for the southbound ramp intersection with University Town Centre Drive that requires only two west bound lanes instead of three in the tight diamond. The roundabout option will have a slightly better LOS in the 2025 10 year period, eliminates a signalized intersection, and will have slightly lower cost compared to the Tight Diamond. The CR 46/3 intersection will be 300 feet west of the roundabout allowing for right in and right out driveways along University Town Centre Drive to allow development consistent with the local development plans.

As a result of the preliminary comparison of the two interchange types, the diamond interchange with a roundabout at the southbound ramps was preferred and carried forward for environmental analysis. CR 46/3 will be relocated west of the current location and will be the west terminus of University Town Centre Drive on the west side of the new interchange. The preliminary impacts of the preferred alternative are listed in Table 2-12.

**Table 2-12**  
**Preliminary Impacts of Preferred Alternative**

Alternative	Residential/ Commercial Displacements	Earthwork	Area Impacted	Stream Impacts	Wetland Impacts	Construction Costs
Diamond Interchange with Roundabout	0	2,000,000 cy	51 acres	2,660 lf	0.07 Acres	\$30,000,000

cy = cubic feet  
 lf = linear feet

## 2.6 Public Involvement

An informational workshop public meeting was held on June 26, 2013 in the Jerry West Room at the West Virginia University Coliseum from 4:00 p.m. to 7:00 p.m. No public presentation was made at the public meeting. The meeting handout information included:

- 1) The purpose and need for the project
- 2) Possible alternatives and figures
- 3) Known environmental concerns
- 4) Schedule

No comments were received from the public during the public meeting or within the 30 day public comment period.

The next public meeting will be held in January after the Federal Highway Administration has approved the Environmental Assessment (EA) Document but prior to the finalization of the EA Document.

## CHAPTER 3 - AFFECTED ENVIRONMENT AND MITIGATION

The following sections summarize background information that is available for the proposed project area as well as site specific information that was obtained during field investigations within the defined study area initially set forth for evaluation of alternatives associated with the new I-79 interchange. This chapter discusses the individual components of the affected environment in relation to an impact analysis conducted for the No-Build and preferred New Interchange Alternative. To comply with Council on Environmental Quality (CEQ) and Federal Highway Administration (FHWA) regulations (40 CFR 1500 and 23 CFR 771, respectively), a general overview is provided for resources that are considered unlikely to be affected in either a positive or negative manner by the proposed action. Resources that would be affected in a positive or negative manner by construction of the Build Alternatives are discussed in greater detail.

For purposes of this section, the No Build is retained as a baseline for evaluating the preferred New Interchange Alternative. Under the No Build, existing highway and roadway infrastructure would remain as is. Only maintenance of the existing roadways would be carried out over the next 20 years. The existing interchanges at Star City and Westover would be expected to handle greater traffic volumes over time, resulting in drivers experiencing long delays to exit or enter I-79 due to increased congestion by the design year 2035. The existing and future LOS was discussed in Chapter 2 for the No Build.

The preferred alternative, which was carried forward for detailed environmental evaluation was identified in Chapter 2. Preferred alternative is a tight diamond interchange with a roundabout at the southbound ramp intersection. CR 46/3 (Martin Hollow Road) will be relocated to the west to connect with University Town Centre Drive west of the proposed new interchange. This will be the west terminus of University Town Centre Drive until the development west of CR 46/3 begins construction.

### 3.1 Social and Economic Characteristics

#### 3.1.1 Demographics

The proposed project is located along I-79 in the northern portion of Monongalia County, west/northwest of downtown Morgantown, West Virginia. Other towns, cities and unincorporated communities located in close proximity to the project include Star City, Osage, Granville, and Westover. Work is generally to occur between two existing exits along I-79 including Exit 152 (Westover-Morgantown) at the south end of the project and Exit 155 (Osage/Star City) at the north end. The surrounding area is generally rural in nature with most residential and commercial developments occurring in conjunction with Morgantown, Westover and Star City. Remaining areas consist of open space that is wooded with low-density residential development, reclaimed mine land and mature woods. Within the project limits for the preferred alternative, there are no residents or businesses and all of the land is either Interstate right-of-way or owned by the developer.

West Virginia had an estimated population of 1,855,413 in 2012 (U.S. Census Bureau) and the City of Morgantown had an estimated population of 31,000. While the state experienced a 0.1 percent change in population between April 1, 2010 to July 1, 2012, Morgantown grew by 4.5 percent during this same time period. **Table 3-1** provides a demographic overview for the city of Morgantown, Monongalia County and the state of West Virginia for the year 2010.

**Table 3-1  
 Demographic Overview  
 Year 2010**

Area	Population Characteristics					Individuals Below Poverty Level	Housing
	Total Population*	White	African American	Other Minority	Age 65 & Over	Percent	Individual Units
Morgantown	31,000	89.7%	4.1%	6.2%	8.1%	36.4%	12,664
Monongalia County	100,332	91.2%	3.8%	5.2%	10.2%	21.0%	43,875
West Virginia	1,855,413	93.9%	3.4%	2.1%	16.0%	17.5%	881,917

\*2012 Estimate

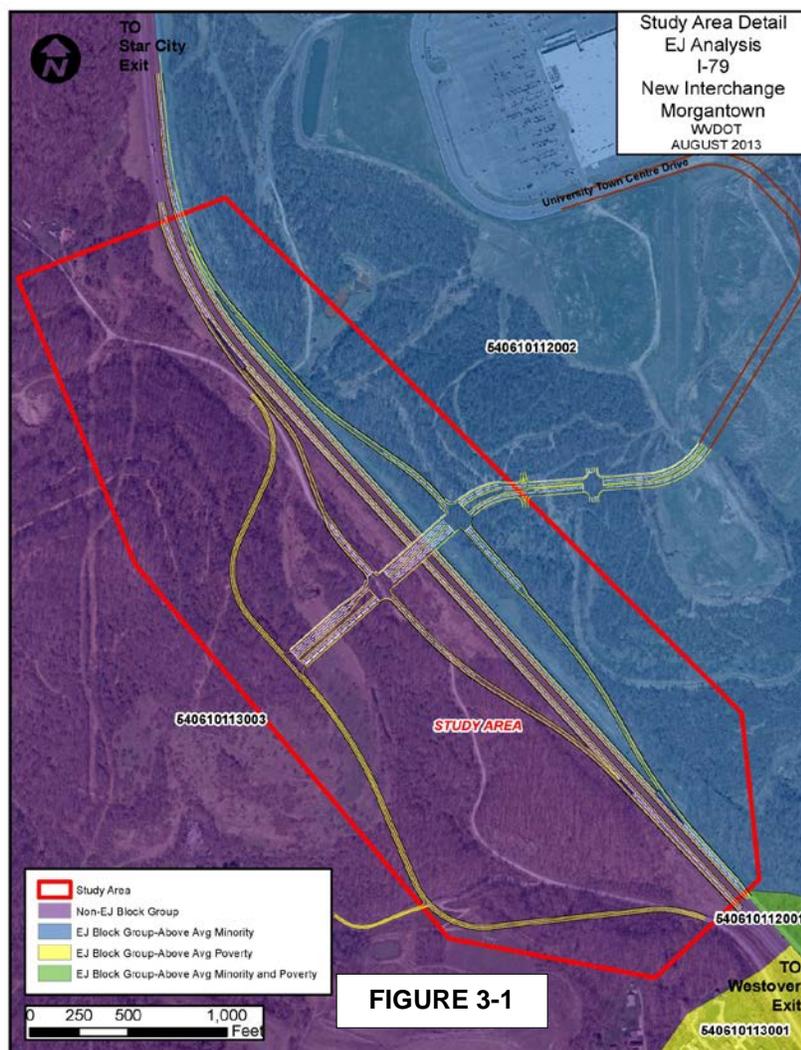
Based on the U.S. Census Bureau statistics (2007-2011), there were 10,082 households in Morgantown with 2.23 persons per household and 35,266 households in Monongalia County with 2.47 persons per household. The median household income for Morgantown was listed as \$25,948. This number increased to \$39,550 when looking at the state level statistics and \$41,325 for Monongalia County. The number of persons per square mile in 2010 was listed as 2,917 for the Morgantown area, while this number drops to 77.1 when considering the state of West Virginia as a whole.

### 3.1.2 Environmental Justice

Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* was established in 1994 as a formal federal policy.

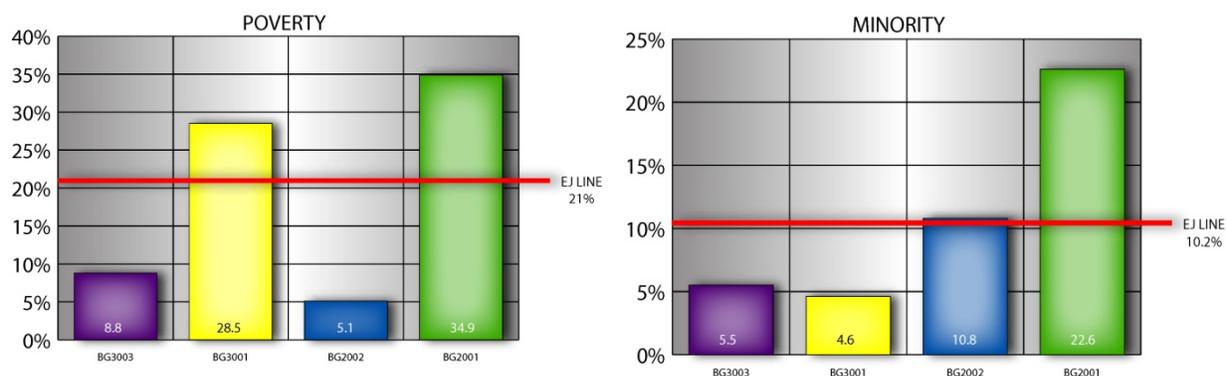
This policy requires that federal agencies consider and address disproportionately high and adverse environmental effects of proposed federal projects on minority and low-income populations.

The study area is located in Monongalia County, West Virginia. Environmental Justice (EJ) populations were identified through the review of 2010 Census block group data. The most recent American Community Survey (ACS) 5-year Estimate (2007-2011) data was analyzed in relation to TIGER block group shape files for Monongalia County. Since there are no residences located within the project limits, the following categories of census information were used to



identify potential EJ populations near the project study area: race, Hispanic/Latino, and poverty status. Based on these categories, census block groups were classified as either an EJ block group or a non-EJ block group. For the purposes of distinguishing between these two classes, the county average of 21 percent was used to establish low income populations and the county average of 10.2 percent was used to establish minority populations. Anything above either of these thresholds may include an EJ population. The EJ analysis utilized information from the U.S. Census Block Groups for the year 2010 shown on **Figure 3-1**. Only Block Groups ending in 3003 (purple) and 2002 (blue) are within the project area. Block Groups 2001 (green) and 3001 (yellow) are just south of the project area but were include in the analysis because of their proximity to the study area. None of the identified populations are located within the project area.

The results of the EJ analysis indicate that block groups included in the analysis include EJ populations as depicted in following graphs.



Block Group 3003 (purple bar) includes the area west of I-79 is well below the County average percent for both minority and low income populations; therefore, it is unlikely that an EJ population exist in the Block Group. Block Group 2002 (blue) has a 10.8 percent minority population which is slightly above the County average of 10.2 percent. The low income population percent is well below the county average, thus this block group is not likely to contain an EJ low income population. Since there are no residences within the study area, the Block Group EJ minority population is not located within the study area.

The proposed project work is limited to the construction of a new interchange that is considered an investment in infrastructure and will benefit the local communities through less traffic congestion, better access to the existing development, and an increase in economic development potential. No positive or negative impacts to identified EJ

populations that exist outside of the study area would result from the No Build since no work would be completed. The preferred alternative will not impact the EJ population since no residences are located within the study area. There will be no relocation of residences, businesses, or retail areas due to the preferred alternative. Any indirect impacts to EJ populations resulting from implementation of the preferred alternative are considered to be positive in nature as the project will provide additional access to existing developments, enhance the local traffic patterns, and create employment opportunities with new development in the project area.

No mitigation is necessary for the positive impact to identified EJ populations associated with the preferred alternative. Positive benefits as a result of the project, include new jobs and revenue sources that will increase local income, increase local tax revenues, and contribute to the local standard of living for the general public.

Numerous opportunities for public involvement have been offered and future public involvement opportunities will occur during development and design of the project. Information will be made readily available to all members of the public, including minority and low-income populations.

### 3.1.3 Socioeconomics

As presented in the *Strategic Plan for the Morgantown Area Economic Partnership (MAP) & Monongalia County Development Authority (MCDA)* (July 2012), the ten largest employers for Monongalia County are listed in **Table 3-2**.

**Table 3-2**  
**Ten Largest Employers (2011)**  
**Monongalia County, WV**

	Company Name	Approximate Employment
1	West Virginia University	6,800
2	West Virginia University Hospitals	4,400
3	Mylan Pharmaceuticals, Inc.	2,500
4	Monongalia County Board of Education	1,700
5	Monongalia General Hospital	1,500
6	WVU Medical Corporation	1,400
7	Teletch Customer Care Management (WV)	800

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	<b>Company Name</b>	<b>Approximate Employment</b>
8	Wal-Mart Stores, Inc.	700
9	Kroger Company	400
10	Gabriel Brothers, Inc.	400

Existing transportation infrastructure and topography in the project area has somewhat limited the amount of developable land and the opportunity for infrastructure improvements which leads to traffic congestion and increased drive times. The MAP and MCDA developed the 2012 *Strategic Plan* which places a focus on retaining and expanding existing businesses, recruiting new businesses and investments, and improving the local, regional and state business environment and increasing the capacity to support economic growth and community development.

The No Build may have potential negative impacts. Under No build, no changes would be made to the existing road network. As discussed above, there is a focus on retaining and expanding existing businesses in this area of the state. The lack of any infrastructure improvements in this area may make it harder to retain existing businesses and attract new development to the area as congestion on the roadway increases resulting in delays of moving freight and people through the area and businesses move to areas outside of the congested areas.

The proposed project will enhance the existing system of transportation infrastructure and benefit local businesses and their employees by offering alternative routes into and out of the area, thus decreasing congestion at the interstate and adjacent intersections. The project will also create new opportunities for development by providing new road connections to the interstate, with new development comes new jobs and benefit motorists traveling through this area of West Virginia. These are considered positive impacts on the economies of local communities, as well as West Virginia residents and tourists who visit the state for recreational opportunities. For these reasons, the preferred alternative is considered to have a positive impact on local economies.

No mitigation is being proposed in relation to economic impacts associated with the preferred alternative as it is considered positive in nature.

### **3.1.4 Community Facilities and Services**

Police service in and near the project area is provided by the West Virginia State Police, the Monongalia County Sheriff's Department, the West Virginia University (WVU) Police Department and the cities/towns of Morgantown, Granville, Star City and Westover. Fire protection and EMS services are provided by the Morgantown Fire Department, Monongalia EMS, and multiple volunteer fire departments (Clinton District, Cheat Lake, Blacksville, Cool Springs, Granville, River Road, Star City, Westover and Triune-Halleck).

No schools are located within the project limits of the preferred alternative. Schools located closest to the proposed project include Mylan Park Elementary School located northwest of the study area and Westwood Middle School located southeast of the study area. Morgantown High School and WVU are also located east of the proposed project, in addition to numerous preschools, elementary schools, middle schools and high schools. United States Post Offices are located in Morgantown, Westover and Star City.

No changes in the operation of community facilities or emergency services would be associated with the No Build. This could be considered a negative impact since access points will remain unchanged and no improvements in response or travel times will result. The preferred alternative will have a direct, but temporary negative impact on traffic patterns which may affect the operation of police and emergency services, as well as school transportation. Old Martin Hollow will need to maintain connection to Martin Hollow (CR 46/3) during the construction to allow access to the homes west of the project area. CR 46/3 will be closed during construction between Old Martin Hollow intersection and the north end of the construction limits. The long term benefits of the new interchange (i.e., improved access and decreased travel time) and rebuilt CR 46/3 to a two lane paved road will outweigh these temporary impacts resulting in an overall net positive impact on the local community facilities and services.

No mitigation in relation to community facilities or services will be necessary.

### **3.1.5 Relocations and Displacements**

The project study area is generally undeveloped with a small amount of rural residential development located north and west of the study area, outside the proposed project limits.

A residential neighborhood is located south of the project limits on Lawless Road. There are no residences, businesses, or community facilities located within the project area.

Neither the No Build nor the preferred alternative will require any relocations or displacements of current residences, businesses or community facilities.

No mitigation in relation to relocations or displacements is necessary.

### 3.2 Land Use and Land Cover

Land use is typically defined by categories of human activities occurring upon the land whereas land cover refers to the types of vegetation and constructed improvements that occupy an area. Common types of land use include categories such as residential, industrial, commercial, open-space, agricultural, and forest.

Land use in the study area was classified according to categories contained within GIS layers from the West Virginia GIS Technical Center (WVGISTC). This information was developed by the Natural Resource Analysis Center (NRAC) at WVU and utilized information obtained from a variety of sources. Land use and cover information is based on growing season conditions from 2011 as obtained from the National Agricultural Imagery Program (NAIP) orthophotography. Identified land uses and cover types within the study area, along with anticipated impacts resulting from the project are summarized in **Table 3-3** and depicted on **Figures 3-2** to **3-3**.

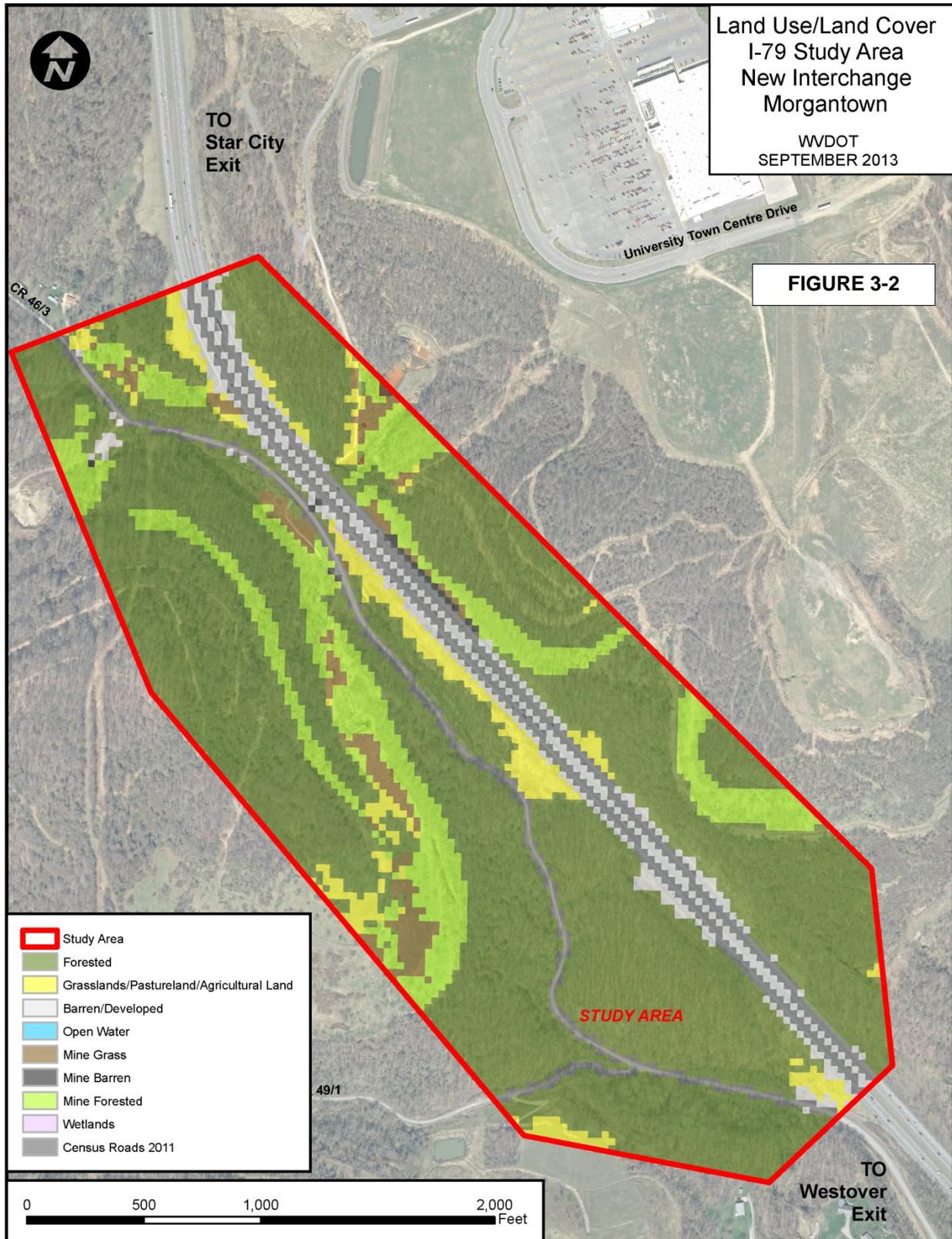
**Table 3-3**  
**Land Use and Cover Types**  
**I-79 Study Area**

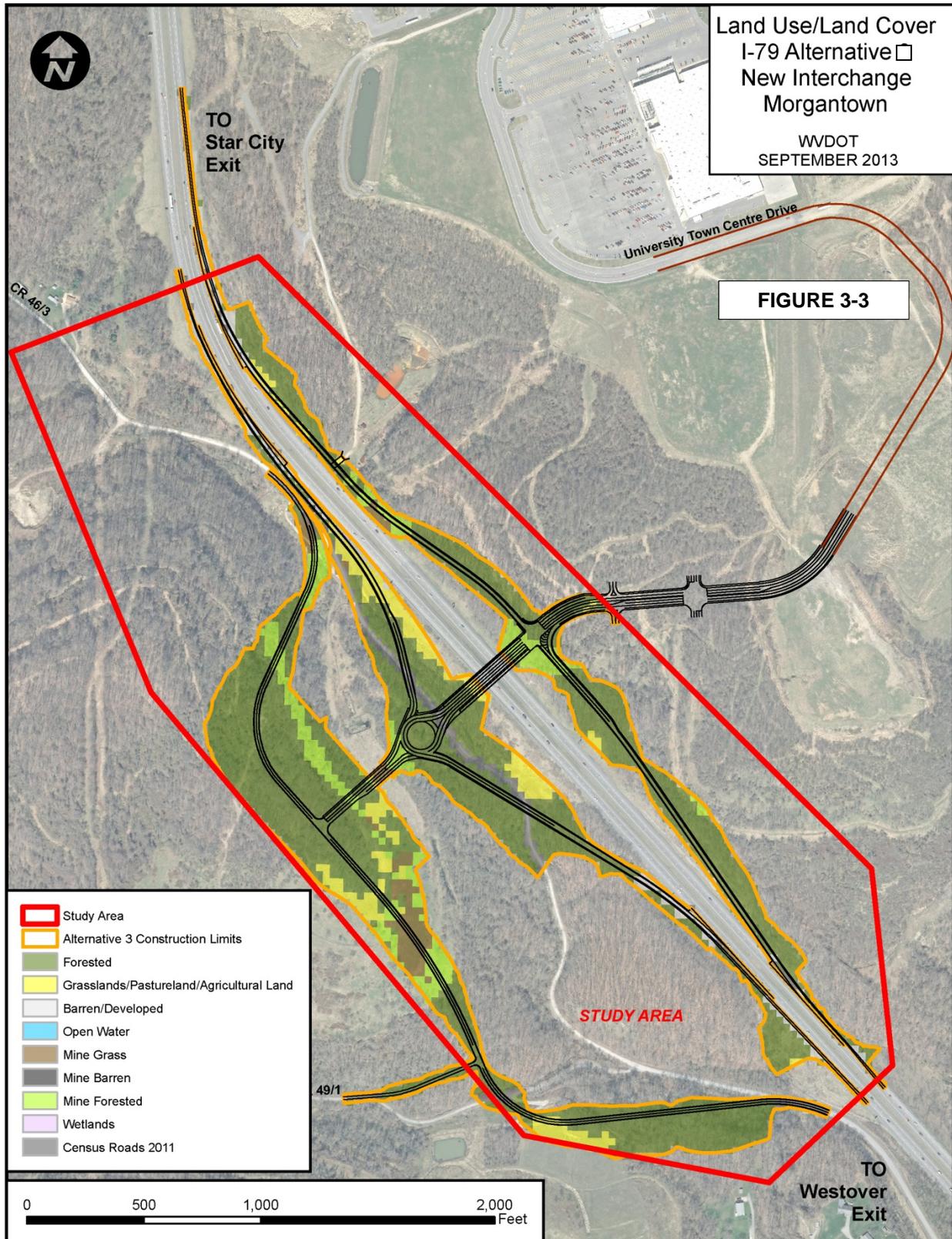
Land Use and/or Land Cover Category	Acres in Study Area	Anticipated Impacts (acres)
		Preferred Alternative
Forested	112.2	35.7
Low-Density Rural Residential	0	0
Grassland/Pasture/Agr.	7.7	3.8
Reclaimed Mine Land	25.1	6.3
Barren/Developed	7.7	2.5
Open Water	0.8	0.0
Wetlands	0.2	0.07
Roads	13.8	3.0
<b>TOTALS</b>	<b>167.5</b>	<b>51.37</b>

Under No Build, existing land use and land cover conditions within the project study area would remain largely unaffected. Some development may occur in the study area, even in the absence of the new interchange. With no improvements to the road network, development pressure to convert undeveloped lands would be less under the No Build since congestion and access would be limited.

The preferred alternative will impact existing land uses and land cover within the project area. As transportation access in the area improves, additional land will become available for development. The preferred alternative will convert most of the current land cover types within the project area to roadway and maintained right-of-way (R/W). Anticipated land use and land cover impacts associated with the preferred alternative are summarized in the above table and the land uses are consistent with local land use plans.

The project is located in close proximity to the developed areas of Morgantown, Westover, Granville, Osage and Star City. Development in these areas is expected to continue into the future. In terms of mitigation, impacts to land use and land cover can be minimized through management of access, long-term planning, zoning resolutions, resource management and preservation, and conservation easements. Additional mitigation for impacts to land cover will be completed through the use of appropriate erosion and sediment controls during construction. An Erosion & Sediment Control Plan will be prepared in accordance with WVDEP's *Erosion & Sediment Control Best Management Practice Manual* and the WVDOH *Erosion and Sediment Control Manual*. All disturbed areas will be re-vegetated (using a native seed mixture) upon project completion. No mitigation in relation to land use is being proposed as no residential displacements are anticipated. The development is consistent with local land use plans, and most of the area is former mine land that has been reforested.





### 3.3 Farmland

The federal Farmland Protection Policy Act (FPPA) of 1981, as amended, was enacted to discourage the “unnecessary and irreversible conversion of prime or important farmland to nonagricultural uses, and to assure that Federal programs are operated in a manner that, to the extent practicable, will be compatible with state, local government, and private programs that protect farmland”.

The U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) provided comments on the proposed project via written letter dated July 24, 2013 (see **Appendix A**). In this letter, the agency determined that the project area does not contain any prime or important farmland and that the project is not subject to FPPA requirements. The agency indicated that completion of an AD-1006 form is not required.

No important farmland was identified for the project area and no impacts to farmland will occur as a result of the No Build or preferred alternative. There is no cropland currently in production within the project limits. All of the land cover listed above is in grassland. Because no impacts will occur, no mitigation is being proposed.

### 3.4 Cultural Resources

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, protects properties that are listed on or eligible for listing on the National Register of Historic Places (NRHP). Cultural resource investigations for the project area were conducted in accordance with the requirements of Section 106, regulations of the Advisory Council on Historic Preservation (ACHP), contained in 36 CFR 800, and procedures established by the West Virginia Division of Culture and History in their *Guidelines for Phase I, II, and III Archaeological Investigations and Technical Report Preparation*<sup>5</sup>, including assessments of both historic structures (50 years of age or older) and archaeological sites. Copies of cultural resource reports prepared for the project area are included in **Appendix B**.

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<sup>5</sup> Trader, P and J. Wilson. 2001. *Guidelines for Phase I, II, and III Archaeological Investigations and Technical Reports*. West Virginia State Historic Preservation Office.

### 3.4.1 Archaeological Resources

Archaeological Consultants of the Midwest, Inc. completed a report entitled *Phase I Archaeological Literature Review and Reconnaissance Survey for the Proposed New I-79 Interchange between Westover and Star City Interchanges near the City of Morgantown, Monongalia County, West Virginia*<sup>6</sup> in August 2013. The goal of the investigation was to identify archaeological resources and determine if any identified cultural resources met the NRHP Criteria for evaluation. According to 36 CFR 800.16(d), the Area of Potential Effect (APE) for cultural resource investigations includes “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist”. The APE for the project was defined in the above referenced report as approximately 281 acres. Field activities for the assessment were conducted in July 2013.

A review of records maintained at the WV Division of Culture and History identified no known/recorded archaeological sites within the study area or past professional investigations conducted in or within a 1.0-mile radius of the APE for the project. No NRHP properties or cemeteries have been inventoried in the APE. Review of historic topographic maps depicted no buildings or structures within the APE, but did indicate that a large portion of the APE had been disturbed from previous mining activities.

Fieldwork confirmed previous disturbance of portions of the study area from past mining, installation of gas pipelines and construction of I-79. As part of field investigations, a total of 92 shovel probes were excavated in portions of the APE that were visually determined to be undisturbed and with the potential for archaeological resources to be present (landforms with less than 20 percent slopes). Analysis of soil profiles completed as part of shovel probes revealed previously disturbed or heavily eroded soils. No sites were documented during the field portion of the investigation.

Because no sites were identified during the investigation, it was determined that the proposed project will have no effect on any archaeological resources that are eligible for

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<sup>6</sup> Vosvick, J. and C. Jackson. 2013. *A Phase I Archaeological Literature Review and Reconnaissance Survey for the Proposed New I-79 Interchange between Westover and Star City Interchanges near the City of Morgantown, Monongalia County, West Virginia*. Archaeological Consultants of the Midwest, Inc., Wheeling, WV.

inclusion on the NRHP under Criterion D. No further work archaeological investigations were recommended for the APE.

Although no cemeteries were identified as a result of the above referenced activities, a local property owner, Mr. John Lynch, who owns property within the project study area, reported one known cemetery located on his property. This cemetery is located on the hillside west of CR 46/3 and north of Old Martin Hollow Road. Multiple head stones for the Breakiron family are located in this cemetery which dates back to the 1800s.

The above referenced cemetery is located outside the proposed construction footprint for the project. Based on this information, no impacts to cemeteries or other archaeological resources would result from the Build or No-Build Alternatives.

The report was reviewed by WVDOT and then sent to the Division of Culture and History for review. On November 27, 2013, the Division sent a letter to Mr. Ben Hark concerning the Archaeological Resources. The letter concurred with the report by stating "It is our understanding that seven areas were identified where shovel probes were excavated. Disturbed soils were encountered. No archaeological sites were identified. As a result, we concur that no further archaeological work is necessary. In our opinion, no significant archaeological resources are present within the proposed project area." A copy of the Division of Culture and History letter is attached in Appendix B.

No mitigation in relation to archaeological resources is necessary.

### 3.4.2 Historic Resources

Archaeological Consultants of the Midwest, Inc. completed a report entitled *A Viewshed Study for the Proposed New I-79 Interchange between Westover and Star City Interchanges near the City of Morgantown, Monongalia County, West Virginia*<sup>7</sup> in October 2013. An Area of Potential Effect (APE) was located west of the Monongahela River near the community of Granville. The APE radius was 0.5 miles in diameter from the preferred alternative location with a project area of approximately 281 acres. A review of the online records

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<sup>7</sup> C. Jackson. 2013. *A Viewshed Study for the Proposed New I-79 Interchange between Westover and Star City Interchanges near the City of Morgantown, Monongalia County, West Virginia*. Archaeological Consultants of the Midwest, Inc., Wheeling, WV.

maintained by Division of Culture and History indicated that no architectural resources or National Register of Historic Places (NRHP) properties have been documented in the APE. Based on the information gathered from the fieldwork, a review of property tax maps, and from the ArcGIS software, one architectural resource that is at least 50 years of age could be visually impacted by the project. An evaluation of the architectural resource indicated that it was not eligible for inclusion on the NRHP under Criteria A to C.

One cemetery (Breakiron Cemetery/site 46MG304) was relocated and examined by the investigation. The cemetery is a small rural family cemetery that is located in a woodlot and poorly maintained. Two families are represented: Breakiron and Casey. Based on the data collected from the field investigation and historic research, it was determined that the cemetery is not eligible for the NRHP under Criteria A to D, or under Criteria Considerations C and D.

Because neither property is eligible for inclusion on the NRHP, the investigation recommended that the proposed project would have *no effect* on any historic properties.

The report was reviewed by WVDOT and then sent to the Division of Culture and History for review. On November 27, 2013, the Division sent a letter to Mr. Ben Hark concerning the Architectural Resources. The letter concurred with the report by stating "After review of the submitted documentation, including a completed Historic Property Inventory (HPI) form, we concur with this assessment. It is our opinion that there are no architectural resources eligible for or included in the National Register of Historic Places that will be impacted by this project. No further consultation regarding architectural resources is necessary." In response to the cemetery, the Division stated "After review of the submitted information, including the completed cemetery form, we concur with this assessment. The Breakiron Cemetery is *not eligible* for inclusion in the National Register of Historic Places under Criteria A-D, Criteria Considerations C and/or D. No further consultation regarding cemetery resources is necessary." A copy of the Division of Culture and History letter is attached in Appendix B.

The Breakiron Cemetery is within the project area but will not be impacted by the project. To prevent disturbing the cemetery, the detailed plan should indicate the location of the cemetery and the cemetery should be fenced during construction to prevent disturbing the cemetery area.

### 3.5 Section 4(f) Resources

Section 4(f) of the U.S. Department of Transportation Act of 1966, as amended, was enacted to preserve publicly owned land including parks, recreation areas, wildlife and waterfowl refuges, and public or privately owned historic sites that are listed on or eligible for the NRHP. The use of these resources is prohibited unless there is a determination that there is no feasible and prudent alternative to the use of land from the property and the action includes all possible planning to minimize harm to the property resulting from such use.

Most of the study area has been subject to historic mining activities. Except for the public roads, all of the land within the project area is privately held. No publicly owned parks, recreation areas or wildlife/waterfowl refuges were identified in the study area as a result of literature reviews or on-site field investigations. One cemetery was reported within the study area by a local property owner and its presence was verified in the field. This family cemetery is located on privately owned land west of CR 46/3 and north of Old Martin Hollow Road on the west side of I-79. The cemetery was evaluated by Archaeological Consultants of the Midwest, Inc. in the report titled "*A Viewshed Study for the Proposed New I-79 Interchange between Westover and Star City Interchanges near the City of Morgantown, Monongalia County, West Virginia*" dated October 2013. The investigation indicated that the cemetery is not eligible for nor listed on the National Register of Historic Places (NRHP). On November 27, 2013, the West Virginia Division of Culture and History concurred with the findings. No Cultural Resources eligible for or included on the NRHP were identified within the project area.

Since no Section 4(f) resources are within the project area, the No Build and the preferred alternative will have no impacts to Section 4(f) resources, no mitigation is required.

### 3.6 Section 6(f) Resources

The Land and Water Conservation Fund Act (LWCFA), commonly referred to as Section 6(f), requires that the conversion of lands or facilities acquired with Land and Water Conservation Act funds be coordinated with the Department of the Interior. A detailed listing on grants for the state of West Virginia was reviewed on the website maintained by the National Park Service (NPS). Monongalia County, West Virginia has received a total of six LWCFA grants, all within the cities of Morgantown or Westover. None of these grants were issued for sites or facilities located within the project area.

No impacts to Section 6(f) resources will occur as a result of the No-Build or preferred alternative. No mitigation is necessary.

### 3.7 Air Quality

The Clean Air Act (CAA) Amendments of 1990 and the Final Transportation Conformity Rule (40 CFR Parts 51 and 93) direct the U.S. Environmental Protection Agency (EPA) to implement environmental policies and regulations that will ensure acceptable levels of air quality. Section 107 of the 1977 CAA Amendments requires that the U.S. EPA publish a list of all geographic areas in compliance with the National Ambient Air Quality Standards (NAAQS), as well as those areas not in attainment of the NAAQS. Areas not in compliance with the NAAQS are referred to as “nonattainment areas”. U.S. EPA has identified six pollutants for tracking air quality including particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), ozone (O<sub>3</sub>) and lead (Pb). The project is located in an attainment area for all six priority pollutants.

The No Build may result in negative air quality impacts due to increased congestion and longer delays in traffic to move through the area resulting in increased air pollution.

The preferred alternative will result in temporary negative impacts to air quality from operation of construction equipment and generation of dust from grading and movement of cut and fill material. Slight increases in particulate levels and exhaust emissions may occur during construction. Mitigation in regards to temporary impacts to air quality will be completed through implementation of dust control and other BMP measures outlined in WVDOH standard specifications.

The addition of a new interchange is identified as a non-exempt project type for analysis of Mobile Source Air Toxics (MSAT) by the U.S. EPA. The Federal Highway Administration (FHWA) has issued Interim MSAT Guidance for transportation projects. For a project that will include a new interchange connecting an existing roadway with a new roadway, a qualitative assessment is required.

For each alternative in the EA, the amount of MSAT emitted would be proportional to the vehicle miles traveled (VMT), assuming that other variables such as fleet mix are the same for each alternative. Because the VMT estimated for the No Build is about the same as the

preferred alternative, higher levels of MSAT are not expected from the preferred alternative compared to the No Build as shown in **Table 3-4**.

**Table 3-4**  
**VMT No Build and Preferred Alternative<sup>8</sup>**

	<b>Description</b>	<b>VMT</b>
<b>2015 Scenarios</b>	No Build: (E+C)	3,672,114
	Upgrade Existing Interchanges: (E+C) + 10% East	3,693,211
	New Interchange: (E+C) + 10% East + 10% West	3,738,287
<b>2035 Scenarios</b>	No Build: (E+C) + 20% East + 20% West	5,327,880
	Upgrade Existing Interchanges: (E+C) + 50% East + 50% West	5,410,166
	New interchange: (E+C) + 100% East + 100% West	5,551,503
	<b>New Interchange: (E+C) + 100% East</b>	<b>5,429,342</b>

(E+C) Existing + Committed

In addition, because the estimated VMT under each of the Build Alternative are nearly the same, varying by less than 1 percent, it is expected there would be no appreciable difference in overall MSAT emissions among the various alternatives. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of EPA’s national control programs that are projected to reduce annual MSAT emissions by 80 percent from 2010 to 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great even after accounting for VMT growth) that the MSAT emissions in the study area are likely to be lower in the future in virtually all locations.

Under each alternative there may be localized areas where VMT would increase, and other areas where VMT would decrease. Therefore, it is possible that localized increases and decreases in MSAT emissions may occur. The localized increases in MSAT emissions

<sup>8</sup> West Virginia Department of Transportation Division of Highways, *Interchange Justification Report for the I-79/Morgantown interchange, Monongalia County, West Virginia*, December 2013, Page 61.

would likely be more pronounced along the extension of the University Town Centre Drive and the new interchange ramps in the preferred alternative and long CR 24/19 and US 19 with the upgrade the existing interchanges alternative. However, even if these increases do occur, they too will be substantially reduced in the future due to implementation of EPA's vehicle and Fuel regulations.

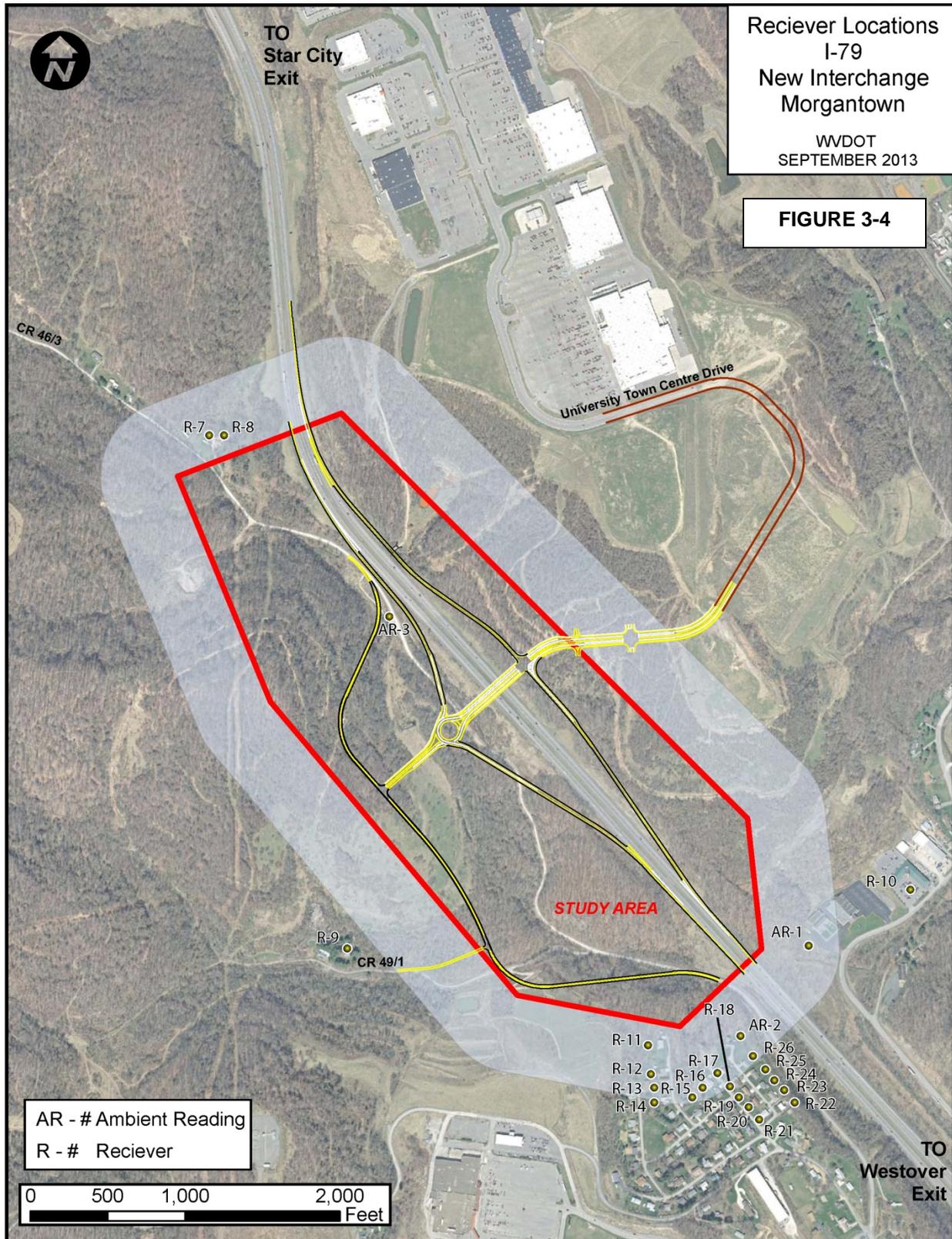
In sum, under the build alternatives in the design year it is expected there would be reduced MSAT emissions in the immediate area of the project, relative to the No Build due to the reduced VMT associated with more direct routing and due to EPA's MSAT reduction programs.<sup>9</sup>

### 3.8 Noise

An in-house review of aerial photographs for the project study area revealed few potential noise sensitive receptors near the area proposed for the preferred alternative. Sensitive receptors are defined as those land uses which are especially susceptible to noise impacts. These include hospitals, schools, residences, motels, hotels, recreational areas, parks, nursing homes, and churches/places of worship. The noise sensitive receptors are located at the extreme north and south ends of the study area. No sensitive land uses are located in the vicinity of the preferred alternatives. **Figure 3-4** shows the location of the preferred alternative to the noise sensitive receptors.

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<sup>9</sup> U.S. EPA Memorandum *Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA*, USEPA, Office of Natural Environment, December 6, 2012, Appendix B.



The project is listed as a Type 1 noise project. Type 1 projects include “(4) The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange; or,” This requires a noise analysis per the FHWA guidelines are set forth in 23 Code of Federal Regulations (CFR) Part 772 *procedures for abatement of Highway Traffic Noise and Construction Noise* and the West Virginia Department of Transportation, Division of Highways, Design Directive (DD) 253- *Noise Analysis and Abatement Guidelines* dated August 19, 2011.

To determine the degree of impact of highway traffic noise on human activity, the Noise Abatement Criteria (NAC) established by the FHWA regulation were used as shown in **Table 3-5**. The NAC are given in terms of the hourly, A-weighted, equivalent sound level in dBA. The A-weighted sound level is a single number measure of sound intensity with weighted frequency characteristics that corresponds to human subjective response to noise. Most environmental noise (and the A-weighted sound level) fluctuates from moment to moment, and it is common practice to characterize the fluctuating level by a single number called the  $L_{eq}$ . The  $L_{eq}$  is the value or level of a steady, non-fluctuating sound that represents the same sound energy as the actual time varying sound evaluated over the same time period. For traffic noise assessment,  $L_{eq}$  is typically evaluated over a 1-hour period, and may be denoted as  $L_{eq}(h)$ .

**Table 3-5  
 FHWA Noise Abatement Criteria (NAC)**

Land Use	Criterion
<b>Category A:</b> Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.	57 dBA $L_{eq}(h)$ Exterior
<b>Category B:</b> Residential.	67 dBA $L_{eq}(h)$ Exterior
<b>Category C:</b> Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio stations, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.	67 dBA $L_{eq}(h)$ Exterior
<b>Category D:</b> Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio stations, recording studios, schools, and television studios.	52 dBA $L_{eq}(h)$ Interior
<b>Category E:</b> Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.	72 dBA $L_{eq}(h)$ Exterior
<b>Category F:</b> Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, ship yards, utilities (water resources, water treatment, electrical), and warehousing.	No Criteria
<b>Category G:</b> Undeveloped lands that are not permitted.	No Criteria

Source: FHWA, 23 CFR 772.

A noise analysis was completed to identify and evaluate the potential noise impacts resulting from the no build option and the Build alternatives. The sensitive receptors identified within the study area or within a 500-foot distance from I-79 were limited to 21 residential structures (Category B), one church (Categories C and D), and one reading in an area of former mine activity (Category F). No receptors were placed around the new interchange because no building permits have been issued within 500 feet of interchange to be evaluated in the noise analysis.

WVDOH developed a traffic noise policy consistent with FHWA guidelines. This policy recommends noise abatement consideration for Category B and Category C exterior areas of human activity where 67 dBA is approached (66 dBA) or exceeded. The FHWA also states that noise abatement must be considered when future noise levels cause significant increases over existing noise levels. WVDOH defines a substantial increase as 15 dBA or greater over existing levels. WVDOH defined the approach as 1 dBA less than the NAC (noise abatement criteria) and a substantial increase as 14 dBA over existing conditions.

To determine traffic noise levels in the future, WVDOT require the use of the Traffic Noise Model (TNM 2.5) to predict peak hour noise levels at sensitive receptors within the project area.

To verify the TNM, short-term ambient noise readings were conducted at 3 receptor locations within the study area, Ambient Reading 1 noise level at the Riverside Apostolic Church was 58.5 dBA, at the residence at 111 Williams Street 61.3 dBA, and at the Consol Energy sump area along CR 46/3 was 66.0 dBA. Based on the sites be categorized as Category B (Site 2), C (site 1), and F (site 3), the sites were below the NAC impact criteria levels.

The TNM predicted noise levels at the three ambient noise reading locations using traffic counts for the Interstate and adjacent local roads within 3 dBA of the ambient readings. This run was used to verify the model was accurately predicting noise levels.

The No-build was evaluated with peak hour traffic for the years 2015 and 2035. The preferred alternative was evaluated using the build peak hour traffic again for the years 2015 and 2035.

For the No-Build option, no receptors exceeded the NAC for the land use category assigned to the receptor nor was there a 15 dBA increase between existing and future values. For the preferred alternative, five receptors along the east side of Williams Street south of the project limits exceeded the NAC criteria for Category B. In the year 2025, six receptors exceed the NAC for Category B, none of the receptors had a 15 dBA increase.

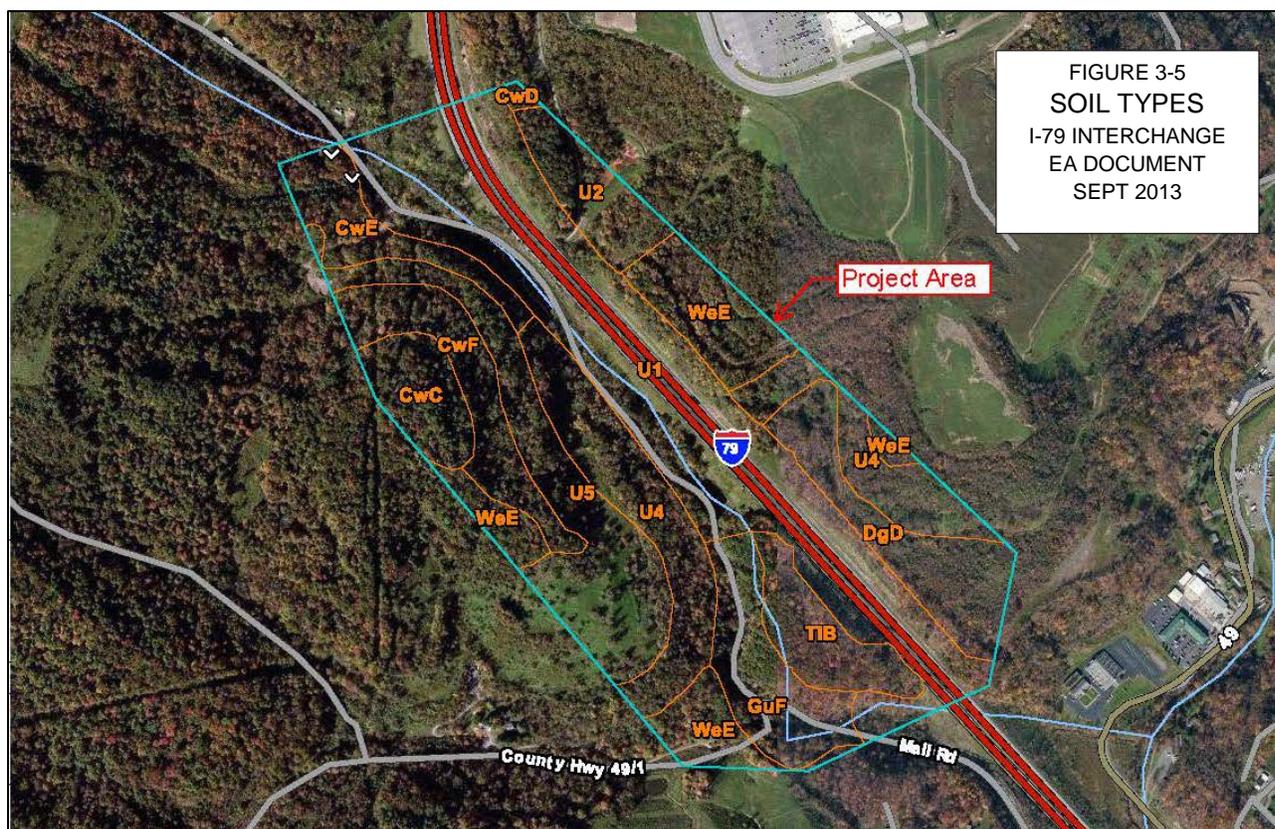
A barrier analysis was conducted on the section of I-79 adjacent to the receptors that were impacted. A barrier is considered reasonable and feasible if it can achieve an 8 dBA reduction at the impacted receptors and the cost of the barrier cannot exceed \$35,000 per

receptor unit. Because each receptor represents a single family home, each receptor represents one unit. The barrier analysis included placing a barrier on the right of way line of I-79 and modeled the barrier to a height of 30 feet above the ground surface. The reduction at the receptors with a barrier 30 feet tall only achieved a 0.3 to 2.2 dBA reduction. WVDOT has set a maximum height of a barrier at 30 feet above ground surface and the reduction goal of 8 dBA cannot be achieved at that height, a barrier is not recommended for the project.

Noise mitigation will not be included in the project.

### 3.9 Soils

Information on mapped soil types in the project area was obtained from the NRCS Web Soil Survey at <http://websoilsurvey.sc.egov.usda.gov>. Mapped soil types for the project area are shown in **Figure 3-5** below. Key characteristics of mapped soil types in the project area are summarized in **Table 3-6**.



**Table 3-6  
 Mapped Soil Types  
 I-79 Study Area**

Map Unit Symbol	Map Unit Name	Drainage Class	Hydric Soil	Prime /Important Farmland Soil	Limitations
CwC	Culleoka-Westmoreland silt loams, 8-15% slopes	Well drained	No	Important	Slope, erosion hazard, slip hazard, shallow depth to bedrock
CwD	Culleoka-Westmoreland silt loams, 15-25% slopes	Well drained	No	Important	Slope, erosion hazard, slip hazard, shallow depth to bedrock
CwE	Culleoka-Westmoreland silt loams, 25-35% slopes	Well drained	No	No	Slope, erosion hazard, slip hazard, shallow depth to bedrock
CwF	Culleoka-Westmoreland silt loams, 35-65% slopes	Well drained	No	No	Slope, erosion hazard, slip hazard, shallow depth to bedrock
DgD	Dormont & Guernsey silt loams, 15-25% slopes	Moderately well drained	No	Important	Slope, erosion hazard, slip hazard, seasonal high water table, slow permeability
GuF	Gilpin-Culleoka-Upshur silt loams, 35-65% slopes	Well drained	No	No	Slope, erosion hazard, slip hazard, shallow depth to bedrock, shrink-swell
TIB	Tilsit silt loam, 3-8% slopes	Moderately well drained	No	Important	Erosion hazard, slow permeability, shallow water table
U1	Udorthents, cut & fill	Not specified	No	No	Site-specific
U2	Udorthents, dump, low base	Not specified	No	No	Site-specific
U4	Udorthents, mudstone & sandstone, high base	Not specified	No	No	Site-specific
U5	Udorthents, mudstone & sandstone, low base	Not specified	No	No	Site-specific
WeE	Westmoreland silt loam, 25-35% slopes	Well drained	No	No	Slope, erosion hazard, slip hazard, shallow depth to bedrock

The No Build would not impact soils. The preferred alternative would impact certain soil units identified by NRCS as meeting “farmland of statewide importance” criteria. Potentially affected soil types include Culleoka-Westmoreland silt loams (CwC, CwD), Dormont & Guernsey silt loams (DgD), and Tilsit silt loam (TIB). However, no areas

occupied by these soil types are actually being farmed within the project area. NRCS has indicated the project area does not contain any prime or important farmland and that the project is not subject to FPPA requirements (see **Section 3.3**).

No mitigation in relation to farmland is necessary.

The Udorthents (U1, U2, U4, and U5) and the Westmoreland silt loams are the majority of the soils type that will be impacted by the construction. Westmoreland silt loams (WeE) has been identified as having a slip hazard and erosion hazard. Care will need to be taken during the excavation of this soil type to prevent slips during construction and after construction is completed. Benching of the slopes, erosion control, and other best management practices should be implements when working in the Westmoreland silt loams or other soils identified as having a slip hazard.

Mitigation for soil slip hazard is implementing best management practices during excavation of the soil and the placement of the soil as fill material.

### **3.10 Geology**

The project area is located in the Appalachian Plateau Physiographic Province. This province is characterized by an extensive, mature, unglaciated plateau of great age. The ancient plateau surface has been dissected by streams to form a region of moderate to high relief. Elevations in the project area range from 1,000 to 1,270 feet above mean sea level (amsl). Approximately 60 percent of the project area is comprised of areas with slopes of 20 percent or greater.

Underlying bedrock consists of sedimentary rocks of Pennsylvanian age, belonging to the Monongahela and Conemaugh Groups. The Monongahela Group is the more recent, and consists of non-marine cyclic sequences of sandstone, siltstone, red and gray shale, limestone and coal. The Monongahela Group contains the Uniontown and Pittsburgh Formations, which extend from the top of the Waynesburg Coal to the base of the economically important Pittsburgh Coal. The Conemaugh Group underlies the Monongahela Group and consists of cyclic sequences of red and gray shale, siltstone, and sandstone, with thin limestone and coal of mostly non-marine origin. This Group includes the Glenshaw and Casselman Formations, and extends from the base of the Pittsburgh Coal

to the top of the Upper Freeport Coal. The West Virginia Geological Resources Map is shown in Figure 3-6.

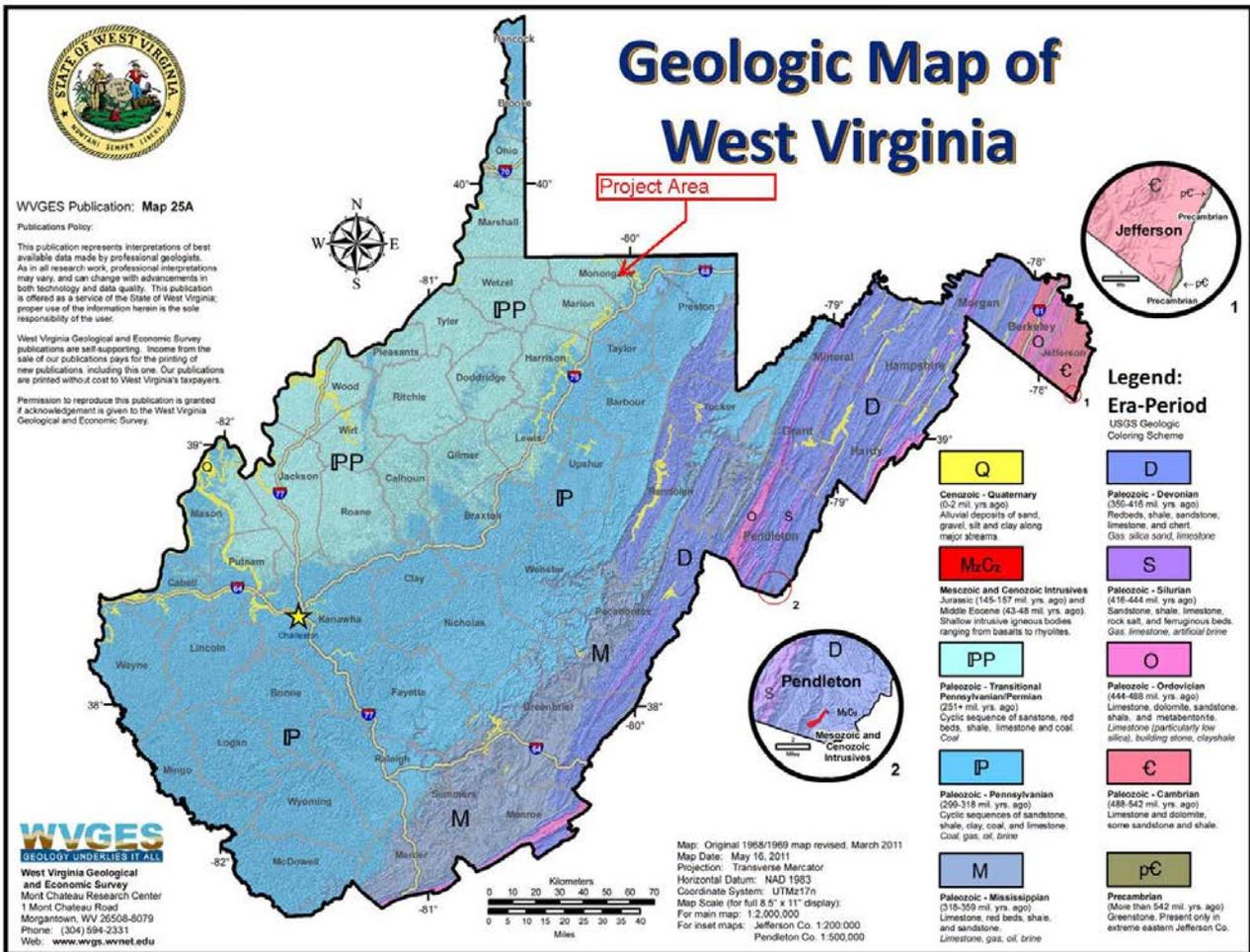


Figure 3-6 Geologic Resources of Project Area

The coal seams have been mined within the project area by both deep mine and strip mine methods. The strip mined areas and the deep mine entrances are on both sides of I-79. The mine entrances and the strip mined lands have been extensively mapped within the development area as proposed by the developer. The deep mine shafts are deep enough that the construction of the interchange will not impact the shafts nor the underground mine area. No additional coal mining is being done within the project limits. No impact is anticipated to the former coal mines based on the preferred alternative.

Acid mine drainage (AMD) is currently being collected from the former mined area on the east side of I-79. Several surface containments are located in the area and the AMD is

piped to the sump area adjacent to the east side of I-79 where it is pumped into an underground mine on the west side of I-79. The AMD then flows through the underground mine to the treatment plant about 30 miles away. The preferred alternative has been designed to prevent impacting the AMD surface impoundments, the pipeline, and the sump/injection areas.

Neither the No Build nor the preferred alternative would adversely impact rare, unique, or important geologic formations or resources, no mitigation is necessary.

## 3.11 Groundwater

### 3.11.1 General

According to *Groundwater Hydrology of the Monongahela River Basin*<sup>10</sup> the principal source of groundwater in the basin is the underlying sedimentary bedrock. The sedimentary rocks form a layered series of aquifers, each composed of hydraulically connected beds. Intergranular spaces, joints, and rock fractures provide the openings through which ground water circulates and is stored in the rock.

Groundwater yields in the basin vary considerably based on local conditions. In general, sandstones yield the most water because they contain both intergranular spaces and joint openings. Shales ordinarily yield little water, but local areas of dense fracturing or wide joints may transmit significant water yields. Shallow groundwater movement also generally follows surface topography; therefore, well yields in valley zones are generally higher than on slopes or hillsides

Well yields in the Monongahela Group aquifer are generally adequate for domestic, farm, and small commercial supplies, but not for industrial or community supplies. Well yields range from 1 to 75 gallons per minute (gpm), with a median yield of 13 gpm. Extensive coal mining in this Group has partly drained some areas, and groundwater supplies may continue to be affected where mine pumpage is maintained after mining ceases.

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<sup>10</sup> Hobba, W.A. Jr. 1984. *Ground Water Hydrology of the Monongahela River Basin*. U.S. Geological Survey, in cooperation with the West Virginia Department of Natural Resources.

The Conemaugh Group aquifer is the most developed in the basin, providing adequate yields for most uses, except for large scale industrial uses. The highest yields are reported from wells situated in valleys and in the sandstone bedrock at the base of this Group. Well yields range from 1 to 400 gpm, with a median yield of 16 gpm.

Groundwater quality in the project area is generally acceptable for domestic use, but may exhibit excessive hardness and chlorides. Coal mining, oil and gas well activities, local dumping, and other activities may allow contaminants to infiltrate the bedrock through mines and fissures which could degrade local groundwater quality. As stated in Section 3.10 Geology, existing underground mines are used to transport AMD from the project area to a treatment plant. Flowing AMD in former mine areas may result in the AMD infiltrating the bedrock and reaching the groundwater supply.

No impacts to groundwater are anticipated from the No Build or the preferred alternative. Construction of the project will be completed so that impacts to acid mine drainage (AMD) treatment facilities and the sump area located at the north end of the study area will be avoided. No additional mitigation other than the above avoidance measures are being proposed in relation to groundwater resources.

### 3.11.2 Wells

A Well Search Report prepared by Environmental Data Resources, Inc. (EDR) identified seven well locations in the project area.<sup>11</sup> These are historical ambient groundwater monitoring wells installed by the U.S. Geological Survey (USGS) in the 1930's to 1950's. The wells are currently inactive. A copy of the EDR Well Search Report is provided in **Appendix C**.

The Monongalia County Health Department (MCHD) is responsible for approving installation of individual potable water wells in the project area. Wells installed before 1985 may not be recorded. There are no occupied residences or businesses currently located within the project area. The MCHD indicated they have no water well records on file for addresses located within 500 feet of the project area limits. Copies of correspondence with MCHD are also included in **Appendix C**.

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<sup>11</sup> Environmental Data Resources, Inc. 2013. *EDR DataMap Well Search Report, West Virginia DOT New I-79 Interchange, Morgantown, WV 26501, Inquiry Number 3633860.1w*. June 13, 2013.

Neither the No Build nor the preferred alternative would impact any known water wells in the project area or immediate vicinity (within 500 feet of the project study area). No mitigation is necessary.

### 3.12 Surface Water Resources

During August 2013, Burgess & Niple, Inc. (B&N) completed a *Wetland Delineation & Aquatic Resource Inventory* to document surface waters located within the project study area boundary. Streams within the project area were identified based on the presence of an Ordinary High Water Mark (OHWM) and defined bed and bank features. Stream condition was evaluated using U.S. EPA Rapid Bioassessment Protocols (RBP) for Physical Condition and Habitat, West Virginia Stream Condition Index (WVSCI) protocols, West Virginia High Gradient Headwater Stream Assessment (HGM) protocols, and WV DEP Benthic Macroinvertebrate Collection Protocols, as applicable. An overall index score was calculated for each stream using the West Virginia Stream and Wetland Valuation Metric (WVSWVM).

In order to be considered a wetland, all three required criteria including hydric soils, hydrology and a predominance of hydrophytic vegetation must be present. Wetlands were delineated in accordance with the *United States Army Corps of Engineers (USACE) Wetlands Delineation Manual, Technical Report Y-87-1* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0)* (USACE 2012). Wetlands were classified according to the system developed by Cowardin.<sup>12</sup>

Wetlands identified during review of background literature and field investigations were delineated utilizing the routine on-site determination method. Wetland boundaries were marked with survey flagging and documented using global positioning system (GPS) technology.

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<sup>12</sup> Cowardin, L.M., et al. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. FWS/OBS-79/31.

### 3.12.1 Streams

The study area is located within the watershed of Dents Run, a tributary to the Monongahela River. The Dents Run watershed covers approximately 14.6 square miles (sm) west of Morgantown, encompassing portions of the communities of Westover, Granville, Morgan Heights, and Laurel Point. The Dents Run watershed is dominated by forest and agricultural lands. Coal mining has historically been important in the watershed, but there are currently no active mining operations in the project area. Consolidated Coal Company (Consol) operates a collection of acid mine drainage (AMD) collection and injection facilities (Injection Point Nos. 208/209) at the north end of the study area identified for this project.

A total of six stream channels were identified within the study area for construction of the preferred alternative. Detailed information on each of these streams, along with assessment results and assessment data forms are included in the above referenced document prepared by B&N. A copy of this report is included in **Appendix D**. Stream locations are generally depicted on **Figure 3-7**. **Table 3-7** presents a summary of major characteristics for each stream channel identified.

**Table 3-7**  
**Stream Summary**  
**I-79 Study Area**

Stream ID	Stream Name	Stream Class*/Water Type	Receiving Stream	Estimated Drainage Area (mi <sup>2</sup> )	Estimated Length in Project Area (lf)
Stream 1	Flaggy Meadow Run	Perennial (RPW)	Dent's Run	1.54	4,727
Stream 2	UT to Stream 1	Ephemeral	Stream 1	0.30	473
Stream 3	UT to Stream 1	Ephemeral	Stream 1	0.14	631
Stream 4	UT to Stream 1	Ephemeral	Stream 1	0.04	508
Stream 5	UT to Stream 1	Ephemeral	Stream 1	0.05	285
Stream 6	UT to Stream 1	Ephemeral	Stream 1	0.18	1,011
<b>TOTAL</b>					<b>7,635</b>

\*Rating subject to USACE concurrence

Stream 1 was the only perennial channel identified within the project study area. Based on this classification, macroinvertebrate sampling was conducted in Stream 1 in accordance with WVDEP Watershed Assessment Branch (WAB) benthic protocols, and West Virginia Scientific Collecting Permit (No. 2013.237). All samples were collected from best available riffles within the stream reach in order to cover a minimum surface area of 1.0 square meter (m<sup>2</sup>). Preserved samples were submitted to Pennington & Associates of Cookeville, Tennessee for laboratory sorting, identification, and calculation of the West Virginia Stream Condition Index (WVSCI) metrics. The final WVSCI score calculated for Stream 1 was 63. Based on this score, Stream 1 within the study area is considered significantly different from reference sites sampled throughout the state of West Virginia.

The No Build will not result in any stream impacts. Anticipated stream impacts will result from valley fills, culvert extensions, new culvert installations, riprap lining, and channel realignment. Anticipated stream impacts associated with the preferred alternative are summarized below in **Table 3-8** and are illustrated on the exhibits in **Figure 3-8**.

**Table 3-8**  
**Stream Impacts**  
**I-79 Study Area<sup>13</sup>**

Stream ID	Impact Description	Estimated Impacts Preferred Alternative (lf)	Unimpacted Length Remaining in Project Area (lf)	Overall WWSWVM Index Score
Stream 1 (PER)	108" diameter culvert installation	1,700	3,027	0.69
Stream 2 (EPH)	72" diameter culvert installation	220	253	0.73
Stream 3 (EPH)	Filled	211	420	0.66
Stream 4 (EPH)	Rock lined	100	408	0.62
Stream 5 (EPH)	Filled	195	90	0.71
Stream 6 (EPH)	No impact	0	1,011	0.55
<b>TOTALS</b>	--	<b>2,426</b> (1,560 lf Perennial Stream & 1,100 lf Ephemeral Stream)	<b>5,209</b>	

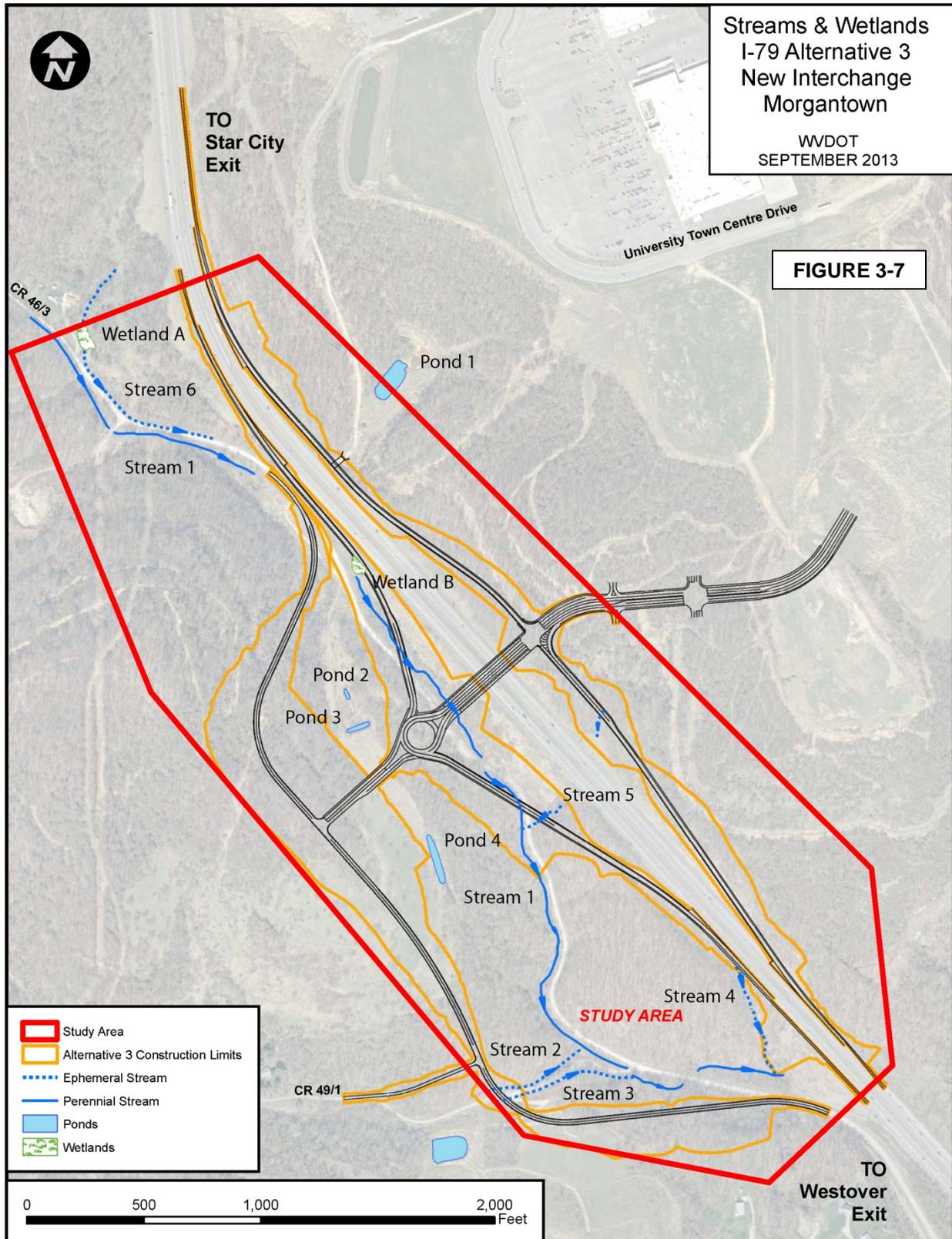
PER = Perennial; EPH = Ephemeral

<sup>13</sup> As identified in the Draft US ACE 404 Individual Permit Application.

Most of the streams have been impacted by mining activities over the years. The relative poor condition of the streams is shown by the overall WWSWVM score.

A Jurisdictional Determination (JD) will be submitted along with the Section 404/401 Joint Individual Permit to the USACE and WVDEP prior to incurring stream impacts. In addition, a "Stream Activity Permit" will be required from the West Virginia Public Lands Corporation. Compensatory mitigation measures for unavoidable permanent stream impacts will be determined by USACE and WVDEP during the Section 404 and 401 permit process. Mitigation may include utilizing West Virginia's established in-lieu fee payment program. Mitigation will be consistent with the 2008 Final Rule on Compensatory mitigation for Losses of Aquatic Resources as adopted by the USACE and based on the WWSWVM debit score that will be included in the Section 404 and 401 permit joint applications. Mitigation will be determined by WVDOT in consultation with USACE and WVDEP and can include the in-lieu fee program, stream banks, or on-site mitigation.

Temporary construction impacts will be minimized through the use of appropriate Best Management Practices (BMPs) for erosion and sediment control, including prompt restoration of disturbed stream bank areas. A detailed sediment and erosion control plan following guidelines set forth in the WVDOH *Erosion and Sediment Control Manual* will be developed prior to beginning work on construction of the preferred alternative. Erosion and sediment control measures will also be integrated into project construction drawings.



### 3.12.2 Wetlands

Two small wetlands totaling 0.20 acre were identified within the project area (Wetland A and Wetland B). Vegetative communities within these wetlands were primarily emergent, with a small scrub-shrub component present in Wetland A. Detailed information on each of these wetlands is included in the previously referenced report prepared by B&N and included in **Appendix D**. **Table 3-9** presents a summary of characteristics for Wetlands A and B and their locations and boundaries are depicted on **Figure 3-7**.

**Table 3-9**  
**Wetland Resources**  
**I-79 Study Area**

Wetland ID	Size (Acres)	Cowardin Classification	Connected to "Waters of the U.S"??*	Dominant Vegetation
Wetland A	0.13	Palustrine/ Emergent/ Scrub-Shrub (PEM/SS)	Connected; Adjacent to Stream 6	<i>Salix nigra</i> (black willow) <i>Leersia oryzoides</i> (rice cutgrass) <i>Impatiens pallida</i> (pale touch-me-not) <i>Typha angustifolia</i> (narrow leaf cattail) <i>Carex lurida</i> (lurid sedge)
Wetland B	0.07	Palustrine/ Emergent (PEM)	Isolated	<i>Juncus effusus</i> (soft rush) <i>Eupatorium pilosum</i> (rough boneset) <i>Eupatorium perfoliatum</i> (boneset)
<b>TOTALS</b>	<b>0.20</b>	--	--	--

\*Subject to USACE Concurrence

The No Build will not result in any impacts to wetlands. The preferred alternative will result in unavoidable impacts to Wetland B, which will be entirely filled. Wetland A will not be impacted by the preferred alternative. Anticipated wetland impacts are summarized in **Table 3-10**.

**Table 3-10**  
**Wetland Impacts**  
**I-79 Study Area**

<b>Wetland ID</b>	<b>Description</b>	<b>Estimated Impacts (ac)</b>	<b>Unimpacted Remaining in Project Area (ac)</b>
Wetland A	No impact; avoided	0.0	0.13
Wetland B	Filled	0.07	0.0
<b>TOTALS</b>	<b>--</b>	<b>0.07</b>	<b>0.13</b>

A Jurisdictional Determination (JD) on the jurisdictional nature of the above wetlands will be required by USACE when the permit application package is submitted. Wetland impacts and required compensatory mitigation will be evaluated by the USACE and WV DEP during the Section 404/401 permit process. If the USACE determines the wetland is isolated they will not have jurisdiction over the filling of the wetland and that will be turned over to the WVDEP. Any wetland mitigation will be included in the proposed compensatory mitigation plan in the permit application and will be consistent with the 2008 Final Rule on Compensatory Mitigation for Losses of Aquatic Resources. As required, wetland mitigation could be provided through the use of an approved mitigation bank or West Virginia’s established in-lieu fee payment program.

Temporary construction impacts will be minimized through the use of appropriate BMPs for erosion and sediment control for protection of avoided wetlands. A detailed sediment and erosion control plan following guidelines set forth in the WVDOH *Erosion and Sediment Control Manual* will be developed prior to beginning work on construction of the new interchange. Erosion and sediment control measures will also be integrated into project construction drawings.

### **3.12.3 Floodplains**

There are no mapped regulated floodplain zones within the project study area. However, the 100-year floodplain zone of Dents Run lays immediately to the southeast of the project limits. The Flood Emergency management Agency 100-year mapped flood boundaries are shown on **Figure 3-8**.

No floodplain impacts will result from the No Build or Build Alternatives. No mitigation in regards to floodplains will be necessary.



### 3.13 Terrestrial Vegetation & Wildlife

General observations on vegetation and vegetative communities were recorded during field observations conducted between July 22 and July 26, 2013. Three types of general vegetative communities were identified and generally included deciduous forest, riparian forest, and reclaimed mine land. Areas characterized by **deciduous forest** are generally characterized by steep slopes with a mature overstory, an open understory, little herbaceous ground cover and significant cover from downed trees and woody debris. **Riparian forest** habitats are associated with stream channels identified in the study area. Areas of **reclaimed mine land** are also present in the study area consisting of both open field and forested slopes. **Table 3-11** presents a general list of dominant species associated with each habitat type and other observations made during the field investigation.

**Table 3-11**  
**Terrestrial Vegetative Communities**  
**I-79 Study Area**

DECIDUOUS FOREST			
Common Name	Scientific Name	Layer	Comments
Slippery Elm	<i>Ulmus rubra</i>	Overstory	---
Black Cherry	<i>Prunus serotina</i>	Understory	---
Red Maple	<i>Acer rubrum</i>	Overstory & Understory	Dominant
Red Oak	<i>Fagus grandifolia</i>	Overstory	Dominant
American Beech	<i>Fagus grandifolia</i>	Overstory	---
Tulip Poplar	<i>Liriodendron tulipifera</i>	Overstory	---
European Privet	<i>Ligustrum vulgare</i>	Shrub	---
Multiflora Rose	<i>Rosa multiflora</i>	Shrub	---
Christmas Fern	<i>Polystichum acrostichoides</i>	Herbaceous	---
Enchanter's Nightshade	<i>Circaea quadrifida</i>	Herbaceous	---
Jumpseed	<i>Polygonum virginianum</i>	Herbaceous	---
Virginia Wild Rye	<i>Elymus virginicus</i>	Herbaceous	---
Deer-Tongue Grass	<i>Dichanthelium clandestinum</i>	Herbaceous	---
Japanese Honeysuckle	<i>Lonicera japonica</i>	Vine	---
RIPARIAN FOREST			
Common Name	Scientific Name	Layer	Comments
Red Maple	<i>Acer rubrum</i>	Overstory & Understory	Dominant
Basswood	<i>Tilia americana</i>	Overstory	---
Red Oak	<i>Quercus rubra</i>	Overstory	Dominant

<b>RIPARIAN FOREST (Continued)</b>			
<b>Common Name</b>	<b>Scientific Name</b>	<b>Layer</b>	<b>Comments</b>
Slippery Elm	<i>Ulmus rubra</i>	Understory	---
Sugar Maple	<i>Acer saccharum</i>	Overstory	Dominant
Tulip Poplar	<i>Liriodendron tulipifera</i>	Overstory	Steep slopes
American Beech	<i>Fagus grandifolia</i>	Overstory	---
Sycamore	<i>Platanus occidentalis</i>	Overstory	---
Tree-of-Heaven	<i>Ailanthus altissima</i>	Understory	Invasive
American Hornbeam or Muscle Tree	<i>Carpinus caroliniana</i>	Understory	---
Witch Hazel	<i>Hamamelis virginiana</i>	Understory	---
Sassafras	<i>Sassafras albidum</i>	Understory	---
European Privet	<i>Ligustrum vulgare</i>	Shrub	Invasive
Multiflora Rose	<i>Rosa multiflora</i>	Shrub	---
Spicebush	<i>Lindera benzoin</i>	Shrub of Understory	---
Pale Touch-Me-Not	<i>Impatiens pallida</i>	Herbaceous	---
Canadian Honewort	<i>Cryptotaenia canadensis</i>	Herbaceous	---
Clearweed	<i>Pilea pumila</i>	Herbaceous	---
Field Horsetail	<i>Equisetum arvense</i>	Herbaceous	---
May Apple	<i>Podophyllum peltatum</i>	Herbaceous	---
Virginia Stickseed	<i>Hackelia virginiana</i>	Herbaceous	---
Wingstem	<i>Actinomeris alternifolia</i>	Herbaceous	---
Japanese Knotweed	<i>Polygonum cuspidatum</i>	Herbaceous	Invasive
Poison Ivy	<i>Toxicodendron radicans</i>	Herbaceous & Vine	---
Virginia Creeper	<i>Parthenocissus quinquefolia</i>	Herbaceous & Vine	---
River Bank Grape	<i>Vitis riparia</i>	Vine	---
<b>RECLAIMED MINE LAND</b>			
<b>Common Name</b>	<b>Scientific Name</b>	<b>Layer</b>	<b>Comments</b>
Sycamore	<i>Platanus occidentalis</i>	Overstory	Forested slopes
Catalpa or Indian-Cigar Tree	<i>Catalpa speciosa</i>	Overstory	Forested slopes
Black Locust	<i>Robinia pseudo-acacia</i>	Overstory	Forested slopes
Black Walnut	<i>Juglans nigra</i>	Overstory	Forested slopes
Red Maple	<i>Acer rubrum</i>	Overstory	Forested slopes
Black Cherry	<i>Prunus serotina</i>	Understory	Forested slopes
Box Elder	<i>Acer negundo</i>	Understory	Forested slopes
Spicebush	<i>Lindera benzoin</i>	Understory	Forested slopes
American Hornbeam or Muscle Tree	<i>Carpinus caroliniana</i>	Understory	Forested slopes
Persimmon	<i>Diospyros virginiana</i>	Understory	Forested slopes
Black Raspberry	<i>Rubus occidentalis</i>	Shrub	Open fields

<b>RECLAIMED MINE LAND (Continued)</b>			
<b>Common Name</b>	<b>Scientific Name</b>	<b>Layer</b>	<b>Comments</b>
Multiflora Rose	<i>Rosa multiflora</i>	Shrub	Forested slopes & open fields
Common Burdock	<i>Arctium minus</i>	Herbaceous	Open fields
Crown Vetch	<i>Coronilla varia</i>	Herbaceous	Open fields & slopes
Wild Madder	<i>Galium mollugo</i>	Herbaceous	Shaded slopes
Late Goldenrod	<i>Solidago gigantea</i>	Herbaceous	Open fields & slopes
Enchanter's Nightshade	<i>Circaea quadrisulcata</i>	Herbaceous	Shaded woods
Pale Touch-Me-Not	<i>Impatiens pallida</i>	Herbaceous	Open fields
Christmas Fern	<i>Polystichum acrostichoides</i>	Herbaceous	Shaded woods; slopes
Chinese Bushclover	<i>Lespedeza cuneata</i>	Herbaceous	Open fields
Clearweed	<i>Pilea pumila</i>	Herbaceous	Shaded slopes
White Avens	<i>Geum canadense</i>	Herbaceous	Shaded slopes
Jumpseed	<i>Polygonum virginianum</i>	Herbaceous	Shaded slopes
Virginia Stickseed	<i>Polygonum virginianum</i>	Herbaceous	Shaded slopes
Virginia Creeper	<i>Parthenocissus quinquefolia</i>	Herbaceous & Vine	Shaded slopes
Poison Ivy	<i>Toxicodendron radicans</i>	Herbaceous & Vine	Open fields & forested slopes
Japanese Honeysuckle	<i>Lonicera japonica</i>	Vine	Forested slopes

The No Build would have no impact on terrestrial vegetation. The preferred alternative will have very similar impacts to terrestrial vegetation and will include the land use and land cover quantities presented in **Table 3-12**.

**Table 3-12**  
**Terrestrial Vegetation**  
**I-79 Study Area**

<b>Terrestrial Vegetation Categories</b>	<b>Acres in Study Area</b>	<b>Anticipated Impacts (acres)</b>
		<b>Preferred Alternative</b>
Deciduous/Riparian Forested	112.2	35.7
Reclaimed Mine Land	25.1	6.3
<b>TOTALS</b>	<b>137.3</b>	<b>42.0</b>

Impacts to terrestrial vegetation have been minimized during the design process where possible. Additional mitigation will be completed through the use of BMPs related to erosion and sediment control in order to protect habitats that are adjacent to the project area and are very similar in nature. No rare, unique or high quality terrestrial habitats are being eliminated as a result of the project and extensive forested habitat exists to both the north and west of the study area. No additional mitigation in relation to terrestrial habitat impacts is being proposed.

Wildlife observations were conducted during field studies completed within the study area during July 2013. Notes on wildlife utilizing the project area were recorded based on direct visual observations and indirect observations such as vocalizations, tracks, scat and trails. **Table 3-13** summarizes observations of wildlife activity documented for the study area.

**Table 3-13  
 Wildlife Observations  
 I-79 Study Area**

<b>DAMSELFLIES</b>			
<b>Common Name</b>	<b>Scientific Name</b>	<b>Habitat</b>	<b>Type of Observation</b>
Ebony Jewelwing	<i>Calopteryx maculata</i>	In riparian woods along streams	Direct observation
<b>BUTTERFLIES</b>			
<b>Common Name</b>	<b>Scientific Name</b>	<b>Habitat</b>	<b>Type of Observation</b>
Eastern Tiger Swallowtail	<i>Papilio glaucus</i>	Variety of habitats near herbaceous vegetation	Direct observation
<b>SONGBIRDS/GAMEBIRDS/RAPTORS</b>			
<b>Common Name</b>	<b>Scientific Name</b>	<b>Habitat</b>	<b>Type of Observation</b>
Northern Cardinal	<i>Cardinalis cardinalis</i>	Deciduous and riparian woods	Direct observation
Wood Thrush	<i>Hylocichla mustelina</i>	Deciduous and riparian woods	Direct observation
Rufous-Sided Towhee	<i>Pipilo erythrophthalmus</i>	Open woods, undergrowth & forest edges	Direct observation
Black-Capped Chickadee	<i>Parus atricapillus</i>	Deciduous woods	Direct observation
American Goldfinch	<i>Carduelis tristis</i>	Roadsides, open fields, & forest edges	Direct observation

<b>SONGBIRDS/GAMEBIRDS/RAPTORS (Continued)</b>			
Blue Jay	<i>Cyanocitta cristata</i>	Deciduous woods	Direct observation & vocalizations
American Robin	<i>Turdus migratorius</i>	Deciduous and riparian woods	Direct observation
Mourning Dove	<i>Zenaida macroura</i>	Woods and roadsides	Direct observation & vocalizations
Red-Tailed Hawk	<i>Buteo jamaicensis</i>	Open fields on hillsides	Direct observation & vocalizations
<b>MAMMALS</b>			
<b>Common Name</b>	<b>Scientific Name</b>	<b>Habitat</b>	<b>Type of Observation</b>
Eastern Chipmunk	<i>Tamias striatus</i>	Deciduous & riparian woods near cover	Direct observation
Eastern Cottontail	<i>Sylvilagus floridanus</i>	Open fields with cover	Direct observation
Raccoon	<i>Procyon lotor</i>	Riparian woods	Tracks
Eastern Gray Squirrel	<i>Sciurus carolinensis</i>	Deciduous & riparian woods	Direct observation & vocalizations
White-Tailed Deer	<i>Odocoileus virginianus</i>	Deciduous & riparian woods	Trails & scat
Feral Pig	<i>Sus scrofa</i>	Open woods	Scat & evidence of rooting/foraging
<b>AMPHIBIANS</b>			
<b>Common Name</b>	<b>Scientific Name</b>	<b>Habitat</b>	<b>Type of Observation</b>
Eastern American Toad	<i>Bufo americanus</i>	Deciduous & riparian woods near cover	Direct observation

Although all of the above species are relatively mobile, some loss of wildlife will most likely occur during clearing of vegetation and construction of the preferred alternative with more mobile species relocating to adjacent habitat areas. Impacts will be limited to species that are considered common in this portion of the state.

The No Build would not result in any impacts to wildlife. The preferred alternative would result in minor impacts to wildlife observed within the study area as they will eliminate

portions of the existing habitat as summarized in **Table 3-14**. Anticipated impacts to existing habitats within the project area are illustrated on **Figures 3-3 and 3-4**.

**Table 3-14**  
**Habitat Impacts**  
**I-79 Study Area**

Habitat Type	Total Existing Within Project Area (Acres)	Anticipated Impacts (acres)
		Preferred Alternative
Forested	112.2	35.7 (31.8% of total)
Open Field	7.7	3.8 (49.4% of total)
Reclaimed Mineland	25.1	6.3 (25.1% of total)
Wetlands	0.2	0.07 (3.5% of total)
Open Water	0.8	0.0 0% of total)
TOTALS	146	45.87 (31.4% of total)

Due to the nature of the above referenced wildlife impacts and the availability of other similar habitat in areas surrounding the preferred alternative, no mitigation is being proposed in relation to the above referenced impacts to wildlife.

### 3.14 Rare, Threatened and Endangered Species

Threatened and endangered wildlife and plant species are protected under *Section 7* of the federal *Endangered Species Act of 1973* (ESA). In West Virginia, there is no state threatened and endangered species legislation. The species listed as either threatened or endangered in West Virginia are those listed by the U.S. Fish & Wildlife Service (USFWS) as federally protected species. Coordination was completed with the West Virginia Division of Natural Resources (WVDNR) to determine if any rare, threatened or endangered (RTE) species are known to occur or have been reported within the study area. WVDNR responded to this request in writing on June 18, 2013 (see **Appendix E**) stating that their records indicate no known occurrences of RTE species or natural trout streams within the study area.

A Section 7 consultation letter for the project was sent to the West Virginia field office for the USFWS in Elkins, WV on June 13, 2013 requesting information on any RTE species known to be present at the project site. A response was received from USFWS on August 5, 2013 (see **Appendix E**) indicating that the agency made a “no effect” determination that the proposed project will not affect federally-listed endangered or threatened species. The

agency indicated that no biological assessment or further Section 7 consultation under the ESA is required unless there is a change in project plans or additional information on listed and proposed species becomes available.

A report entitled *Indiana Bat (Myotis sodalis) Mist Net Survey Report* (Pittsburgh Wildlife & Environmental, August 23, 2013) was prepared for Mon-View, LLC (see **Appendix E**). The study area covered for this investigation overlaps with the study area for the new I-79 interchange. A presence/absence mist net survey was conducted from July 9, 2013 to August 13, 2013, including a field reconnaissance to identify open portals (cave or mine openings). A total of 28 mist net locations were identified in the study area that contained at least two of the following: roosting areas, foraging areas, drinking pools and/or flight corridors. A total of 81 net nights (dispersed over 6 sites) were completed from July 19 through August 13, 2013. A total of 87 bats (38 males, 42 females and 7 unknown) were captured and included the following: Big brown bat, Eastern red bat, Little brown bat, and Tri-colored bat. No Indiana bats were captured during the survey. Five documented abandoned mine portals were identified based on literature review and interviews with Mon-View, LLC. These portals were documented during the mist net survey and found to have been previously closed. No other potential winter bat habitat was identified. Since the USFWS did not require the Indiana bat survey, the information is presented here as supplemental data and supports the findings of no Indiana bat within the project area.

The No Build will not have an impact on any RTE species. Based on the coordination completed with applicable regulatory agencies and detailed field studies completed by others, no RTE species have been documented for the proposed project area. The preferred alternative will not result in any negative impacts to RTE species. Because no impacts are anticipated, no mitigation is being proposed.

### **3.15 Hazardous Materials Assessment**

A Hazardous Materials Assessment (HMA), performed in August 2013, was conducted by B&N to identify evidence of past or present impacts to the property within the study area, in accordance with the American Society for Testing and Materials (ASTM) E1527-05 Standard Practice for Environmental Site Assessments (ESAs): Phase I ESA Process, and generally consisted of a visit to the study area and surrounding areas and a review of reasonably ascertainable environmental and historical record sources. The site visit was

conducted the week of July 22 through 26, 2013. A complete copy of the HMA report is included in **Appendix F**.

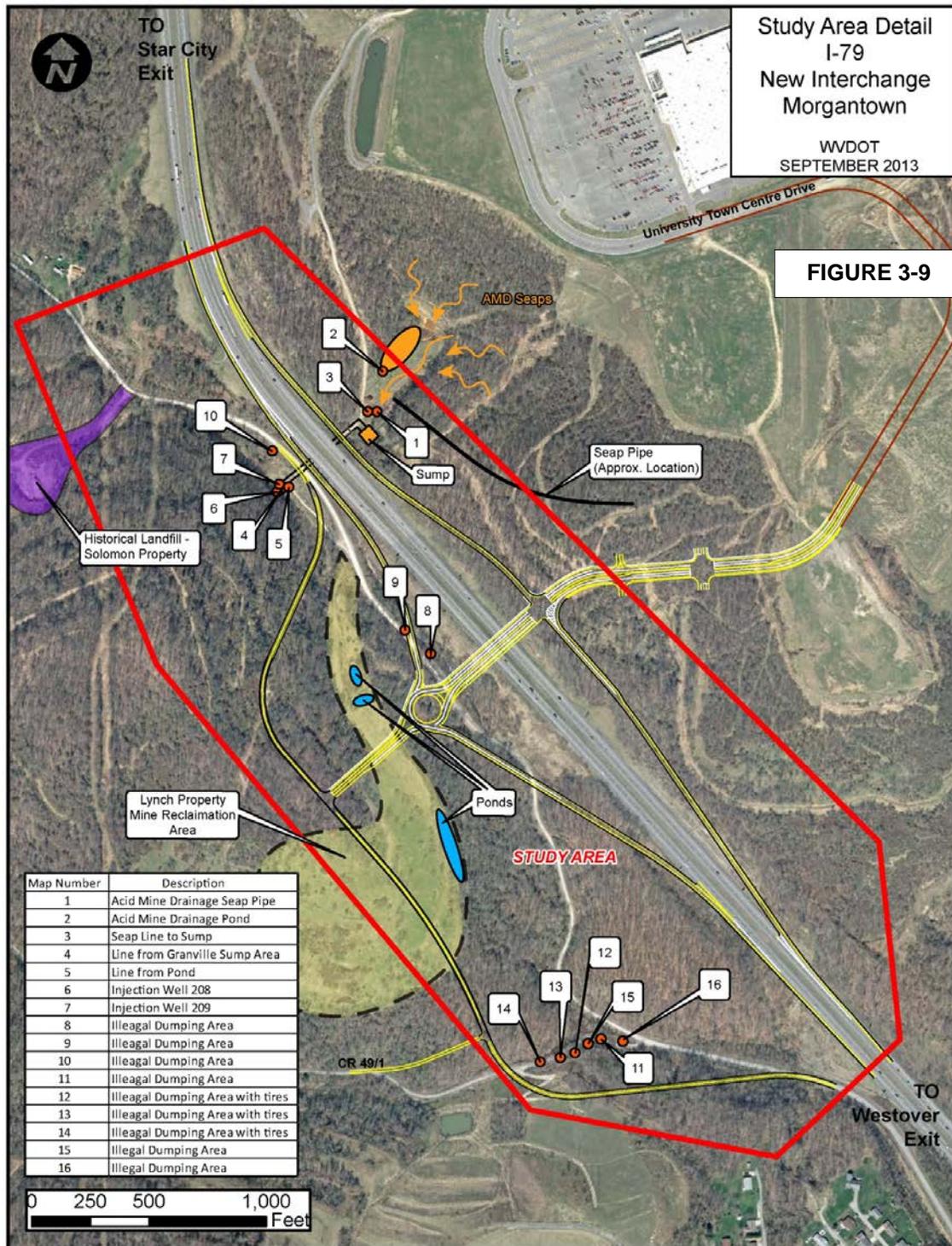
Review of the Environmental Data Resources, Inc. (EDR) records and confirmation of the properties listed and their locations was conducted. It is concluded that there are no hazardous waste sites within the study area that were listed in the EDR report. No facilities identified within 0.5-mile of the study area pose an environmental risk.

The areas of concern for the HMA are the mine sump area (Arkwright Mine Complex), and the multiple illegal dumping areas found within the study area. The Arkwright Mine Complex sump area was previously discussed in the Geology and Groundwater sections of this chapter.

The property located in the southwest portion of the study area is owned by Mr. John Lynch. According to Mr. Lynch, there are reclaimed strip mines located on his property. A query on the West Virginia Department of Environmental Protection (WVDEP) Internet Mapping system does not show any mining permits for this property. According to Mr. Lynch, the red stone coal was removed by West Virginia Coal in the late 1980s. After mining was completed, the land was reclaimed. Three retention ponds are present on the Lynch property.

Several illegal dumping areas were discovered within the study area during the site visit. The majority of the illegal dumping areas were located within the creeks that flow next to Martin Hollow Road (CR 46/3) and Old Martin Hollow Road. Another dump area was identified just north of the mine injection well area, west of CR 46/3. The contents of these dumps consisted mostly of household trash and some construction debris. One dumping area, along the north side of Old Martin Hollow Road, consisted mostly of tires. These areas should be cleaned up prior to construction activities beginning within the area. It should be noted that since the site visit, additional illegal dumping areas may have been created.

The No Build will not impact any hazardous material sites. The preferred alternative will impact land that historically been used for mining and occur in an areas where illegal dumping has taken place. Materials placed as part of illegal dumping actions should be removed prior to construction for proper disposal. The areas identified in the HMA report are shown on **Figure 3-9**.



Mitigation measures for transportation projects typically include development of a hazardous materials management plan and/or hazardous waste management provisions that are incorporated into construction bid documents. It is possible that additional analyses and testing may be needed as engineering design moves forward. In addition, former mining features may be exposed during the construction process requiring that additional evaluations be completed.

The above recommendations related to the protection of AMD treatment systems, sump areas, and injection points have been made to help avoid impacts to these areas. Materials placed as part of illegal dumping actions within the foot print of the construction limits should be removed prior to construction and properly disposal. No other hazardous waste sites are to be impacted by the preferred alternative.

No additional mitigation is proposed.

### **3.16 Energy**

Energy expenditures are required during the construction of any highway or infrastructure project. Energy is also used by vehicular traffic that operates on the highway system, with the amount used affected by things such as roadway profile, the alignment, grade, and traffic density.

The No Build may increase fuel consumption over the 20 year design period due to increased time idling in traffic due to congestion. Energy use and conditions would slightly higher than they are today. It is anticipated that the preferred alternative will actually decrease the amount of energy used since it will help alleviate traffic congestion, reduce travel times, reduce engine idling time, and provide an additional access point that can be used by motorists to reach their destination. This is considered a positive impact and no mitigation is being proposed. In the short term, during construction energy use will increase due to the use of fossil fuels to power construction equipment. This short term increase will be off-set by the improved movement of traffic after the project is constructed.

## 3.17 Secondary and Cumulative Impacts

### 3.17.1 Secondary Impacts

Guidelines developed by the Council on Environmental Quality (CEQ) for adhering to NEPA requirements generally define secondary impacts as those that are caused by a planned action and are later in time or further removed in distance, but are still predictable. These impacts are often associated with development that may occur as a result of constructing a particular facility such as a new road or building, but have separate impacts than those resulting from the initial construction work. For this project, the secondary impacts are likely to occur over the next ten years and confined to the project area and the land immediately adjacent to the preferred alternative limits.

The No Build may result in negative secondary impacts associated with the congestion on the existing roads and this congestion preventing or slowing the development of the University Town Centre Drive. This congestion could also result in businesses moving out of the development to other locations where the public can more easily reach their business. Secondary impacts would be expected to occur as a result of the preferred alternative because currently undeveloped land will become available for development due to the new interchange. This may lead to increased pressure to convert open space and natural resources to a developed use. Most of the areas near the proposed project that would be subjected to the development pressures are included in the local land use plans for development. **Figure 2** in Chapter 1 shows the proposed University Town Centre development plans for the area adjacent to the preferred alternative and east to the existing development. This development is planned and will be constructed within the next ten years.

Most of the planned development will occur on reclaimed mine land. There will be some conversion of these areas to paved surfaces, including building pads and possible recreational facilities, primarily east of I-79 where commercial development has continued for the last 10 years. Secondary impacts associated with the project are expected to be similar to those that have historically occurred in the area as new developments are constructed. Much of the land adjacent to the preferred alternative is former mined land that will be converted to buildings lots, roads, and parking lots. The secondary impact to this development is not likely to create an adverse impact. Development resulting from construction of the project is consistent with the local land use plans and is considered a

positive impact that benefits members of the local communities through increased employment opportunities and tax revenues.

### 3.17.2 Cumulative Impacts

Cumulative impacts result from the combined consequences of an action when added to other past, present and future actions. These impacts can result from multiple related actions of the same nature or a variety of unrelated projects (i.e., transportation improvements, commercial development, etc.). When considered as a whole, these impacts can have a combined effect greater than the results of each individual action considered independently from the others. The *City of Morgantown Comprehensive Plan*, adopted June 2013, identifies “Areas of Opportunity” where a variety of development types are presented for consideration. These development opportunities are located in close proximity to the study area and are summarized in **Table 3-15**.

**Table 3-15**  
**Areas of Opportunity/Future Development**  
**Adapted from City of Morgantown Comprehensive Plan**

Location	Development Intent
Waterfront/Wharf District	Continued infill with employment, entertainment, accommodation and residential uses to serve as gateway to downtown; pedestrian and bicycle access
South High Street & University Avenue	Construct new infill buildings and mixed-use development (retail/commercial & office/residential)
Beechurst Avenue Corridor	Construct new buildings
North Willey Street/Richwood Avenue Area	Revitalization and new buildings (primarily residential); Improved pedestrian ways
Steward Street Area	Revitalization, new buildings and redevelopment (primarily residential)
705 University Farms Area	Encourage growth on this WVU-owned agricultural land (mixed housing types, open space and recreation)
Brockway Avenue Corridor (Route 7)	Redevelopment with residential emphasis (live-work structures, commercial/office uses); new parks in floodplain; pedestrian facilities
Sunnyside	Revitalization, infill and redevelopment; pedestrian and vehicular infrastructure improvements; parks and open space

Location	Development Intent
Airport Technology Park	Diversify employment and industry base through development of business/industrial park
Sabraton, Earl L. Core Rd.	Mixed-use development (retail/commercial and office/residential)
University Research Park	Employment related development near WVU

In addition to the above areas that have been identified as development opportunities, the comprehensive plan also discusses multiple transportation projects included on the *Long Range Transportation Plan* throughout the Morgantown, Westover, Granville and Star City areas. It is anticipated that cumulative impacts will result from the preferred alternative, just as unforeseeable development in the area would result in cumulative impacts when considered as a whole. The preferred alternative will improve local transportation and open up areas for development that were previously inaccessible. This may lead to the use and conversion of natural areas such as wetlands, terrestrial habitat, forested areas, and other types of ecological habitat. The reasonably foreseeable future actions will include additional development on the west side of the relocated CR 46/3. This development is part of the Mon-View long range plan and may or may not be built based on demand for future development. If this development occurs it will be built over the next 20 to 30 years. Because of the terrain of the area and the natural resources in the area, long term impacts to land cover, wildlife, and streams may occur due as developed land acreage increases. Because the developer owns much of the land west of CR 46/3, their long range plan has been discussed. Adjacent property owners to the Mon-View development may also redevelop their property over the long term as land use changes prompt them to change the land use on their property. Currently no other land owners have discussed development potential with local governments.

Again long term development that is consistent with the long range plans for the project area will be a beneficial impact for members of the local communities through increased employment opportunities and tax revenues for many years to come. While cumulative impacts may result in the conversion of natural habitats or ecological resources to developed uses, impacts to natural resources can be minimized through proper planning and design of future developments. Adherence to local, state and federal regulatory requirements will help ensure that impacts to these resources are protected to the fullest extent and appropriate mitigation is provided where direct impacts are unavoidable. It is also expected that some of the future development occurring as a result of the project will

include recreational facilities, open/green space, and parks that will enhance opportunities for public use of these areas and result in an overall net benefit to the community.

### 3.18 Temporary Construction Impacts

The No-Build would not result in any temporary construction impacts and would require no mitigation.

The preferred alternative will result in short-term impacts during construction of the project. These impacts may include interference with local traffic patterns and drive times particularly for people that use CR 46/6 (Martin Hollow Road) and lane or shoulder closures on I-79 to construct the University Town Centre Drive bridge over the interstate; increased noise and particulate air pollution; and increased erosion. The preferred alternative will also have a positive impact as they will create numerous construction jobs in the area. The advantage of constructing the preferred alternative is that the interchange is in an area where no businesses or residents are located and no local roads will be impacted.

To mitigate the impacts associated with the preferred alternative, construction work will be scheduled to minimize disruptions to I-79 and Martin Hollow Road when possible. Traffic control signage and devices will be utilized to make the public aware of construction work and address safety concerns. Coordination with utility companies will be completed during project design and during construction to minimize any disturbance to utility services. Coordination will also be completed with public service providers (schools, post offices, etc.) and emergency services (police, fire, EMS, etc.) that may be affected by the project in order to minimize impacts and protect public safety.

### 3.19 Impact Summary

**Table 3-16** presents a tabular summary of the impacts associated with the No-Build and the preferred alternative for the new I-79 interchange.

**Table 3-16  
 Summary of Impacts and Mitigation for the Preferred Alternative  
 I-79 Study Area**

<b>Resource/Element</b>	<b>No-Build</b>	<b>Preferred Alternative</b>	<b>Mitigation</b>
<b>Residential/ Commercial Displacements</b>	0	0	None
<b>Earthwork</b>	0 cy	2,000,000 cy	Erosion control per WVDOT specifications
<b>Land Area Impacted</b>	20 acres	51.37 acres	None
<b>Stream Impacts</b>	0 lf	2,426 lf	Mitigation per USACE Rules
<b>Wetland Impacts</b>	0 acres	0.07 acres	Mitigation per USACE Rules
<b>Noise Receptors Impacted</b>	0	6	None
<b>Terrestrial Habitats</b>	0 acres	40.2 acres	None
<b>Hazardous Waste Sites</b>	0	1 Acid Mine Drainage Line 9 Illegal Dump Sites	Clean up illegal dumps prior to construction.
<b>Improved Access to Development</b>	No	Yes	None
<b>Environmental Justice Population</b>	No	No	None
<b>Public Services</b>	No	Yes	Notify public agencies such as police, fire, school districts of road closures and detours.

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## CHAPTER 4 - REFERENCES

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West Virginia Department of Transportation Division of Highways, *Interchange Justification Report for the I-79/Morgantown interchange, Monongalia County, West Virginia*, December 2013

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**APPENDIX A**

**NRCS FARMLAND LETTER**

July 24, 2013

Ben L. Hark  
Division of Highways  
1900 Kanawha Blvd east, Bldg 5, Rm 110  
Charleston, WV 25305

  
JUL 29 2013  
ENGINEERING DIVISION  
WV DOH

**RE: New I79 Interchange Project; State U331-79-153.30, Monongalia Co. WV**

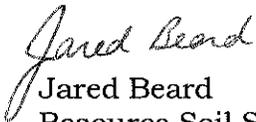
Mr. Hark,

This is to acknowledge receipt of your request for evaluation of Important Farmland related to the above referenced project in Monongalia County WV. This Important Farmland information was requested in order for you to assess the environmental impacts of the proposed project in accordance with the National Environmental Policy Act.

The Farmland Protection Policy Act (FPPA – Public Law 97-98, 7 U.S.C. 4201) established the farmland conversion rating system to evaluate the impacts Federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are implemented or assisted by a Federal agency. Assistance from a Federal agency includes loans, financial and technical assistance.

Based on a review of the submitted documents, aerial photography, and the soil survey mapping this project area **does not** impact any prime or important farmland. As such, this project is not subject to FPPA requirements and does not require completion of an AD-1006.

If you have any questions regarding this determination, please contact Norm Bailey, Resource Conservationist at 304-284-7585.

  
Jared Beard  
Resource Soil Scientist

Cc: Ray Carr, District Conservationist, USDA-NRCS, Morgantown, WV  
Norm Bailey, Resource Conservationist, USDA-NRCS, Morgantown, WV

U.S. Department of Agriculture

## FARMLAND CONVERSION IMPACT RATING

<b>PART I (To be completed by Federal Agency)</b>		Date Of Land Evaluation Request 6/13/13			
Name Of Project Grandview Interchange		Federal Agency Involved			
Proposed Land Use 179 Interchange		County And State Monongalia, WV			
<b>PART II (To be completed by NRCS)</b>		Date Request Received By NRCS 7/23/13			
Does the site contain prime, unique, statewide or local important farmland? <i>(If no, the FPPA does not apply -- do not complete additional parts of this form).</i>		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Acres Irrigated	Average Farm Size
Major Crop(s)	Farmable Land In Govt. Jurisdiction Acres: %	Amount Of Farmland As Defined in FPPA Acres: %			
Name Of Land Evaluation System Used	Name Of Local Site Assessment System	Date Land Evaluation Returned By NRCS 7/25/13			
<b>PART III (To be completed by Federal Agency)</b>		Alternative Site Rating			
		Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly					
B. Total Acres To Be Converted Indirectly					
C. Total Acres In Site		0.0	0.0	0.0	0.0
<b>PART IV (To be completed by NRCS) Land Evaluation Information</b>					
A. Total Acres Prime And Unique Farmland		0.0			
B. Total Acres Statewide And Local Important Farmland					
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted		0.0			
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value					
<b>PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)</b>			0	0	0
<b>PART VI (To be completed by Federal Agency)</b> Site Assessment Criteria <i>(These criteria are explained in 7 CFR 658.5(b))</i>		Maximum Points			
1. Area In Nonurban Use					
2. Perimeter In Nonurban Use					
3. Percent Of Site Being Farmed					
4. Protection Provided By State And Local Government					
5. Distance From Urban Builtup Area					
6. Distance To Urban Support Services					
7. Size Of Present Farm Unit Compared To Average					
8. Creation Of Nonfarmable Farmland					
9. Availability Of Farm Support Services					
10. On-Farm Investments					
11. Effects Of Conversion On Farm Support Services					
12. Compatibility With Existing Agricultural Use					
<b>TOTAL SITE ASSESSMENT POINTS</b>		160	0	0	0
<b>PART VII (To be completed by Federal Agency)</b>					
Relative Value Of Farmland <i>(From Part V)</i>		100	0	0	0
Total Site Assessment <i>(From Part VI above or a local site assessment)</i>		160	0	0	0
<b>TOTAL POINTS (Total of above 2 lines)</b>		260	0	0	0
Site Selected:		Date Of Selection		Was A Local Site Assessment Used? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Reason For Selection:					

**APPENDIX B**

**DIVISION OF CULTURE AND HISTORY CONCURRANCE LETTER  
CULTURAL RESOURCES  
ARCHEOLOGIC AND HISTORIC REPORTS (On CD)**



November 27, 2013

*The Culture Center*  
1900 Kanawha Blvd., E.  
Charleston, WV 25305-0300

**Randall Reid-Smith, Commissioner**

Phone 304.558.0220 • www.wvculture.org  
Fax 304.558.2798 • TDD 304.558.3562  
EEO/AA Employer

RECEIVED

DEC 03 2013

ENGINEERING DIVISION  
WV DOH

Mr. Ben Hark  
WVDOH  
1900 Kanawha Blvd., E  
Building Five, Room 110  
Charleston, WV 25305

Re: New I-79 Interchange Between Westover and Star City Interchanges  
State Project U331-79-153.30; Federal Project NHPP-0793(238)  
FR#: 13-757-MG-1

Dear Mr. Hark:

We have reviewed the cultural resources technical reports that were submitted for the above referenced project to determine potential effects to cultural resources. As required by Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

Architectural Resources:

Submitted information indicates that there is one building 50 years or older within the direct and/or indirect area of potential effect (APE) for this project and that all other buildings and/or structures are modern. Color photographs included within the report verify this assertion. It is the consultant's opinion that this building is not eligible for inclusion in the National Register of Historic Places. After review of the submitted documentation, including a completed Historic Property Inventory (HPI) form, we concur with this assessment. It is our opinion that there are no architectural resources eligible for or included in the National Register of Historic Places that will be impacted by this project. No further consultation regarding architectural resources is necessary.

Archaeological Resources:

According to the report, systematic survey consisting of pedestrian reconnaissance and shovel probe excavation was conducted within the proposed project area. Field investigations documented steep slope and previous disturbance over much of the proposed project area. It is our understanding that seven areas were identified where shovel probes were excavated. Disturbed and eroded soils were encountered. No archaeological sites were identified. As a result, we concur that no further archaeological work is necessary. In our opinion, no significant archaeological resources are present within the proposed project area.

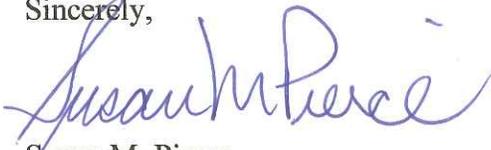
November 27, 2013  
Mr. Hark  
FR#: 13-757-MG-1  
Page 2

Cemetery Resources:

It is our understanding that the Breakiron Cemetery (46MG304) was identified and documented as part of the investigations conducted for this project. It is within the viewshed of the proposed project, but will not be able to see the project area because of terrain and dense vegetation. It is the consultant's opinion that the cemetery is not eligible under Criteria A-D, Criteria Considerations C and/or D. After review of the submitted information, including the completed cemetery form, we concur with this assessment. The Breakiron Cemetery is *not eligible* for inclusion in the National Register of Historic Places under Criteria A-D, Criteria Considerations C and/or D. No further consultation regarding cemetery resources is necessary.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the review process, please contact Shirley Stewart Burns, Structural Historian, or Lora A Lamarre-DeMott, Senior Archaeologist, at (304) 558-0240.*

Sincerely,



Susan M. Pierce  
Deputy State Historic Preservation Officer

SMP/SSB/LLD

**APPENDIX C**

**EDR WELL SEARCH REPORT  
MONONGALIA COUNTY HEALTH DEPARTMENT LETTERS**

**West Virginia DOT New I-79 Interchange**  
Morgantown, WV 26501

Inquiry Number: 3633860.1w  
June 13, 2013

## EDR DataMap™ Well Search Report

***Thank you for your business.***  
Please contact EDR at 1-800-352-0050  
with any questions or comments.

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# GEOCHECK VERSION 2.1 SUMMARY

## FEDERAL DATABASE WELL INFORMATION

MAP ID	WELL ID
1	USGS40001305949
2	USGS40001305840
3	USGS40001305831
4	USGS40001305795
5	USGS40001305780
6	USGS40001305692
7	USGS40001305682

## STATE WATER WELL INFORMATION

MAP ID	WELL ID
NO WELLS FOUND	

## STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID
1	WVOG80000109429
2	WVOG80000109286
3	WVOG80000109284
4	WVOG80000074042
5	WVOG80000103660
6	WVOG80000000108
7	WVOG80000035919

## PUBLIC WATER SUPPLY SYSTEM INFORMATION

NO WELLS FOUND

## USGS TOPOGRAPHIC MAP(S)

39079-E8 MORGANTOWN SOUTH, WV  
 39079-F8 MORGANTOWN NORTH, WV PA  
 39080-E1 RIVESVILLE, WV  
 39080-F1 OSAGE, WV PA

## AREA RADON INFORMATION

EPA Region 3 Statistical Summary Readings for Zip Code: 26505

Number of sites tested: 519.

Maximum Radon Level: 68.3 pCi/L.

Minimum Radon Level: -0.5 pCi/L.

pCi/L <4	pCi/L 4-10	pCi/L 10-20	pCi/L 20-50	pCi/L 50-100	pCi/L >100
395 (76.11%)	94 (18.11%)	20 (3.85%)	9 (1.73%)	1 (0.19%)	0 (0.00%)

# GEOCHECK VERSION 2.1 SUMMARY

## AREA RADON INFORMATION

Federal Area Radon Information for MONONGALIA COUNTY, WV

Number of sites tested: 9

<u>Area</u>	<u>Average Activity</u>	<u>% &lt;4 pCi/L</u>	<u>% 4-20 pCi/L</u>	<u>% &gt;20 pCi/L</u>
Living Area - 1st Floor	0.587 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	4.244 pCi/L	89%	0%	11%

# GEOCHECK VERSION 2.1

## STATE DATABASE WELL INFORMATION

**Water Well Information:**

Map ID:	1		
Org. Identifier:	USGS-WV		
Formal name:	USGS West Virginia Water Science Center		
Monloc Identifier:	USGS-393952080004501		
Monloc name:	Mng-0381		
Monloc type:	Well		
Monloc desc:	Original station name was 0905100		
Huc code:	05020003	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	39.6645252
Longitude:	-80.0122871	Sourcemap scale:	Not Reported
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	860.00
Vert measure units:	feet	Vertacc measure val:	50
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Pennsylvanian aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19560101	Welldepth:	365
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

Map ID:	2		
Org. Identifier:	USGS-WV		
Formal name:	USGS West Virginia Water Science Center		
Monloc Identifier:	USGS-393841080004201		
Monloc name:	Mng-0294		
Monloc type:	Well		
Monloc desc:	Original station name was 0905074		
Huc code:	05020003	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	39.6448035
Longitude:	-80.0114544	Sourcemap scale:	Not Reported
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	975.00
Vert measure units:	feet	Vertacc measure val:	50
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Pennsylvanian aquifers		
Formation type:	Not Reported		

**GEOCHECK VERSION 2.1**  
**STATE DATABASE WELL INFORMATION**

Aquifer type: Not Reported  
 Construction date: 19480101 Welldepth: 38  
 Welldepth units: ft Wellholeddepth: Not Reported  
 Wellholeddepth units: Not Reported

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
-----		
1948-12-01	23.00	

Map ID: 3  
 Org. Identifier: USGS-WV  
 Formal name: USGS West Virginia Water Science Center  
 Monloc Identifier: USGS-393837080002501  
 Monloc name: Mng-0285  
 Monloc type: Well  
 Monloc desc: Original station name was 0905075  
 Huc code: 05020003 Drainagearea value: Not Reported  
 Drainagearea Units: Not Reported Contrib drainagearea: Not Reported  
 Contrib drainagearea units: Not Reported Latitude: 39.6436924  
 Longitude: -80.006732 Sourcemap scale: Not Reported  
 Horiz Acc measure: 1 Horiz Acc measure units: seconds  
 Horiz Collection method: Interpolated from map  
 Horiz coord refsys: NAD83 Vert measure val: 980.00  
 Vert measure units: feet Vertacc measure val: 50  
 Vert accmeasure units: feet  
 Vertcollection method: Interpolated from topographic map  
 Vert coord refsys: NGVD29 Countrycode: US  
 Aquifername: Pennsylvania aquifers  
 Formation type: Not Reported  
 Aquifer type: Not Reported  
 Construction date: 19480101 Welldepth: 95  
 Welldepth units: ft Wellholeddepth: Not Reported  
 Wellholeddepth units: Not Reported

Ground-water levels, Number of Measurements: 0

Map ID: 4  
 Org. Identifier: USGS-WV  
 Formal name: USGS West Virginia Water Science Center  
 Monloc Identifier: USGS-393815079585701  
 Monloc name: Mng-0250  
 Monloc type: Well  
 Monloc desc: Original station name was 0905020  
 Huc code: 05020003 Drainagearea value: Not Reported  
 Drainagearea Units: Not Reported Contrib drainagearea: Not Reported  
 Contrib drainagearea units: Not Reported Latitude: 39.6375815  
 Longitude: -79.9822867 Sourcemap scale: Not Reported

**GEOCHECK VERSION 2.1**  
**STATE DATABASE WELL INFORMATION**

Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	880.00
Vert measure units:	feet	Vertacc measure val:	50
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19410101	Welldepth:	820
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

Map ID:	5		
Org. Identifier:	USGS-WV		
Formal name:	USGS West Virginia Water Science Center		
Monloc Identifier:	USGS-393808079595901		
Monloc name:	Mng-0243		
Monloc type:	Well		
Monloc desc:	Original station name was 0905073		
Huc code:	05020003	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	39.6356371
Longitude:	-79.9995098	Sourcemap scale:	Not Reported
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	900.00
Vert measure units:	feet	Vertacc measure val:	50
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Pennsylvanian aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19480101	Welldepth:	100
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

Map ID:	6		
Org. Identifier:	USGS-WV		
Formal name:	USGS West Virginia Water Science Center		
Monloc Identifier:	USGS-393712079595601		
Monloc name:	Mng-0180		
Monloc type:	Well		
Monloc desc:	Original station name was 0905071		
Huc code:	05020003	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	39.620082
Longitude:	-79.998677	Sourcemap scale:	Not Reported

## GEOCHECK VERSION 2.1 STATE DATABASE WELL INFORMATION

Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	1050.00
Vert measure units:	feet	Vertacc measure val:	50
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Pennsylvanian aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19480101	Welldepth:	200
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
-----			-----		
1948-10-01	111.00		1948-10-01	111.00	

---

Map ID:	7		
Org. Identifier:	USGS-WV		
Formal name:	USGS West Virginia Water Science Center		
Monloc Identifier:	USGS-393710079595101		
Monloc name:	Mng-0171		
Monloc type:	Well		
Monloc desc:	Orig staname was 0905027 GEORGE A POLAND		
Huc code:	05020003	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	39.6195264
Longitude:	-79.997288	Sourcemap scale:	Not Reported
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refs:	NAD83	Vert measure val:	1075.00
Vert measure units:	feet	Vertacc measure val:	50
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	Pennsylvanian aquifers		
Formation type:	Conemaugh Formation		
Aquifer type:	Not Reported		
Construction date:	19300101	Welldepth:	363
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

## GEOCHECK VERSION 2.1 STATE DATABASE WELL INFORMATION

**Oil/Gas Well Information:**

---

Map ID:	1		
Well x:	587501.2		
Well y:	4388386.5		
Geosource:	ERIS-LL	Status:	Abandoned Well
Type:	Not Available	Use:	NA
Depth:	Not Available	Rig type:	NA
Farm name:	SNYDER, CLYDE		
Well numbr:	1		
Resp party:	OPERATOR UNKNOWN		
Api:	061-00192		
County:	61		
Permit:	192		
Recvd date:	Unknown	Issue date:	19500420
Permitid:	6100192	Permit id:	Not Reported
Site id:	WVOG80000109429		

---

Map ID:	2		
Well x:	587324.1		
Well y:	4388064.6		
Geosource:	ERIS-LL	Status:	Active Well
Type:	Gas Well	Use:	NA
Depth:	Not Available	Rig type:	NA
Farm name:	LOT 12 RIVERSIDE		
Well numbr:	1		
Resp party:	PENTRESS GAS LLC		
Api:	061-00190		
County:	61		
Permit:	190		
Recvd date:	Unknown	Issue date:	19490226
Permitid:	6100190	Permit id:	Not Reported
Site id:	WVOG80000109286		

---

Map ID:	3		
Well x:	587565.5		
Well y:	4388064.6		
Geosource:	ERIS-LL	Status:	Plugged
Type:	Not Available	Use:	NA
Depth:	Not Available	Rig type:	NA
Farm name:	BIRCHER, G. LESTER		
Well numbr:	1		
Resp party:	OPERATOR UNKNOWN		
Api:	061-00196		
County:	61		
Permit:	196		
Recvd date:	Unknown	Issue date:	19500803

**GEOCHECK VERSION 2.1**  
**STATE DATABASE WELL INFORMATION**

Permitid: 6100196 Permit id: Not Reported  
 Site id: WVOG80000109284

Map ID: 4  
 Well x: 587147  
 Well y: 4387066.7  
 Geosource: ERIS-LL Status: Abandoned Well  
 Type: Not Available Use: NA  
 Depth: Not Available Rig type: NA  
 Farm name: PENNSULA CO.  
 Well numbr: 1  
 Resp party: OPERATOR UNKNOWN  
 Api: 061-00108  
 County: 61  
 Permit: 108  
 Recvd date: Unknown Issue date: 19380826  
 Permitid: 6100108 Permit id: Not Reported  
 Site id: WVOG80000074042

Map ID: 5  
 Well x: 587147  
 Well y: 4387066.7  
 Geosource: ERIS-LL Status: Plugged  
 Type: Not Available Use: NA  
 Depth: Not Available Rig type: NA  
 Farm name: WESTOVER, CITY OF  
 Well numbr: SIMPSON 2  
 Resp party: UNKNOWN - DEP PAID PLUGGING CONTRACT  
 Api: 061-00142  
 County: 61  
 Permit: 142  
 Recvd date: 20030224 Issue date: 20030227  
 Permitid: 6100142 Permit id: Not Reported  
 Site id: WVOG80000103660

Map ID: 6  
 Well x: 587082.7  
 Well y: 4386857.6  
 Geosource: ERIS-LL Status: Plugged  
 Type: Not Available Use: NA  
 Depth: Not Available Rig type: NA  
 Farm name: HARE, ROBINSON - ESTATE  
 Well numbr: 1  
 Resp party: OPERATOR UNKNOWN  
 Api: 061-00136  
 County: 61  
 Permit: 136  
 Recvd date: Unknown Issue date: 19411223

**GEOCHECK VERSION 2.1**  
**STATE DATABASE WELL INFORMATION**

Permitid: 6100136 Permit id: Not Reported  
Site id: WVOG8000000108

---

Map ID: 7  
Well x: 587682.9  
Well y: 4386835.7  
Geosource: ERIS-LL Status: Active Well  
Type: Gas Well Use: NA  
Depth: Not Available Rig type: NA  
Farm name: MORGANTOWN INDUST. PARK  
Well numbr: PRINCESS COALS  
Resp party: CROMPTON MANUFACTURING COMPANY, INC.  
Api: 061-00717  
County: 61  
Permit: 717  
Recvd date: 19861125 Issue date: 19830620  
Permitid: 6100717 Permit id: Not Reported  
Site id: WVOG80000035919

# WEST VIRGINIA GOVERNMENT WELL RECORDS SEARCHED

## PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

## PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

## Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

## EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

## EPA Region 3 Statistical Summary Readings

Source: Region 3 EPA

Telephone: 215-814-2082

Radon readings for Delaware, D.C., Maryland, Pennsylvania, Virginia and West Virginia.

## USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

## West Virginia Water Well Information

Source: Bureau of Public Health

Telephone: 304-558-6765

Community, non-community, non-transient non-community, non-public wells.

## West Virginia Oil and Gas Well Database

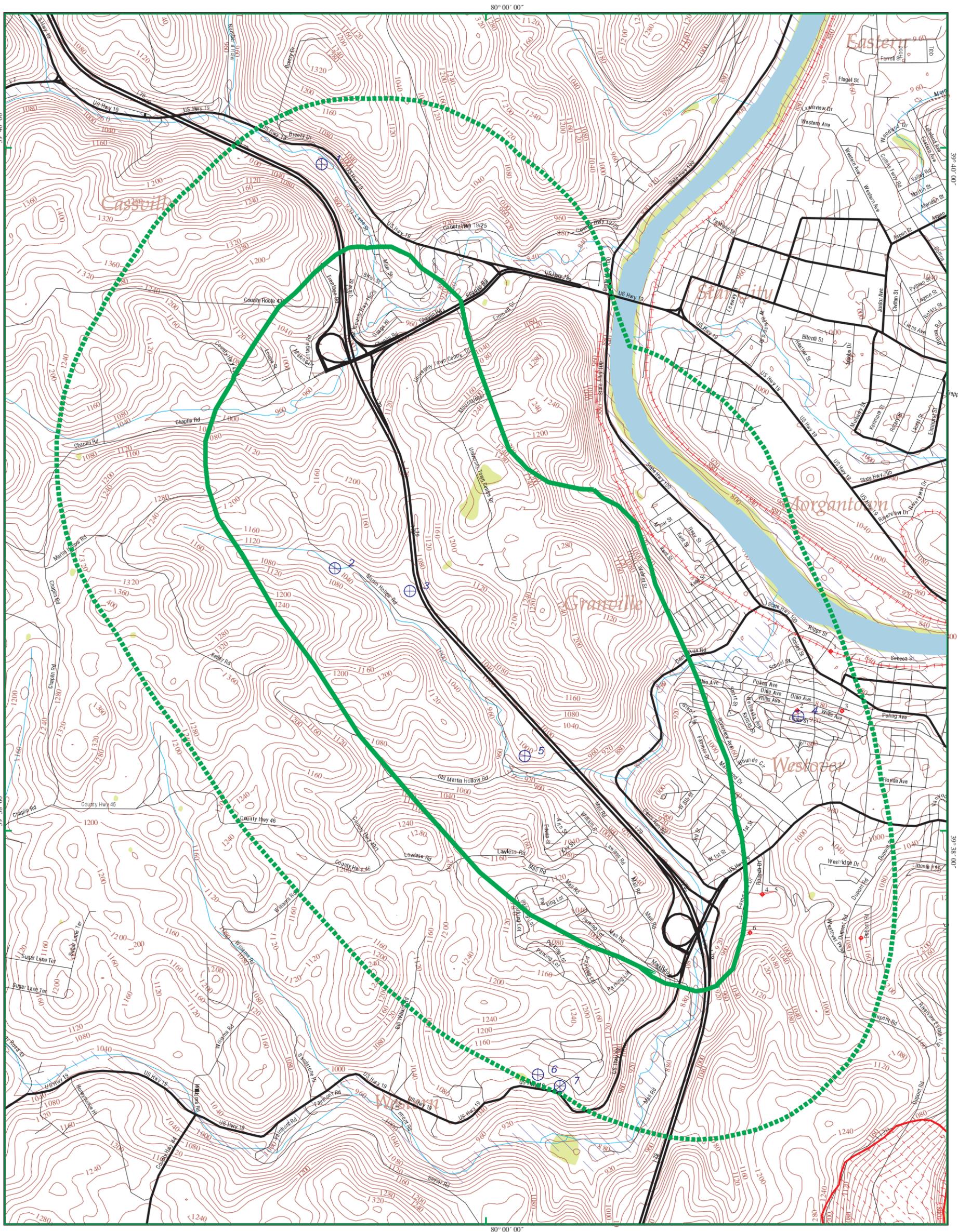
Source: Department of Environmental Protection

Telephone: 304-926-0450

Oil and Gas well locations in the state.

## **STREET AND ADDRESS INFORMATION**

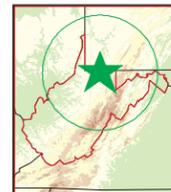
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# EDR DataMap® - Well Search



## West Virginia DOT New I-79 Interchange



Morgantown, WV

- |                    |               |                    |          |
|--------------------|---------------|--------------------|----------|
| Listed Water Wells | Major Roads   | Fault Lines        | Wetlands |
| Oil & Gas Wells    | Waterways     | Water              |          |
| Study Boundary     | Railroads     | Superfund Sites    |          |
| Roads              | Contour Lines | 100-Yr Flood Zones |          |



0 1/4 1/2

Scale in Miles

## Fontaine, Katherine

---

**From:** Powroznik, Todd J [Todd.J.Powroznik@wv.gov]  
**Sent:** Wednesday, September 18, 2013 9:23 AM  
**To:** Fontaine, Katherine  
**Subject:** RE: New I-79 Interchange Water Well Inquiry

Katherine,

The following addresses listed below were researched by Monongalia County Health Department staff. According to MCHD'S records there were no water well permits issued or recorded in our database.

336 Dents Run Road.  
105 Williams Street  
111 Williams Street  
106 Williams Street  
181 Lee Street  
183 Lee Street  
103 Ann Street  
104 Ann Street  
106 Ann Street  
108 Ann Street  
112 Ann Street  
127 Edwin Street  
598 Martin Hollow Road (CR 46/3)  
590 Martin Hollow Road (CR 46/3)

Should you have any questions please contact me at 304-598-5134

Thank You!

Todd Powroznik

---

**From:** Fontaine, Katherine [<mailto:Kathy.Fontaine@burgessniple.com>]  
**Sent:** Friday, September 13, 2013 3:58 PM  
**To:** Powroznik, Todd J  
**Subject:** New I-79 Interchange Water Well Inquiry

Hi Todd,

Per our telephone conversation yesterday, attached is a list of the addresses we are interested in knowing if you have water well records for...

Thank You!

***Katherine E. Fontaine, PWS***  
Burgess & Niple, Inc.  
5085 Reed Road, Columbus, OH 43220  
614-459-2050 ext. 1420  
[katherine.fontaine@burgessniple.com](mailto:katherine.fontaine@burgessniple.com)

# BURGESS & NIPLE

---

5085 Reed Rd. | Columbus, OH 43220 | 614.459.2050

**To:** Mr. Todd Powroznik  
Monongalia County Health Department  
453 Van Voorhis Road  
Morgantown, WV 26505

**RE:** New I-79 Interchange  
Morgantown, WV  
Individual Water Well Inquiry

Todd,

Here are the addresses we are interested in knowing if you have any water well records for:

They are all in Morgantown 26501 zip code.

336 Dents Run Road.  
105 Williams Street  
111 Williams Street  
106 Williams Street  
181 Lee Street  
183 Lee Street  
103 Ann Street  
104 Ann Street  
106 Ann Street  
108 Ann Street  
112 Ann Street  
127 Edwin Street  
598 Martin Hollow Road (CR 46/3)  
590 Martin Hollow Road (CR 46/3)

If you have any questions, please do not hesitate to contact me at 614-459-2050, ext. 1420, or by email at [Katherine.fontaine@burgessniple.com](mailto:Katherine.fontaine@burgessniple.com).

Thank You!

Katherine E. Fontaine

---

Note:  
These electronic documents are provided by Burgess & Niple (B&N) as a convenience to our clients. It is our professional opinion that this electronic information provides information current as of the date of its release. Any use of this information is at the sole risk and liability of the user. The user is responsible for updating information to reflect any changes in the information following the preparation date of this transmittal. The delivery of this information in electronic format is for the benefit of the owner for whom the services have been performed. Nothing in the transfer should be construed to provide any right to third parties to rely on the information provided, or that the use of this information implies the review and approval of Burgess & Niple.

**APPENDIX D (on CD)**

**WETLAND DELINEATION AND AQUATIC RESOURCES INVENTORY REPORT**

**APPENDIX E**

**WVDNR RARE, THREATENED & ENDANGERED SPECIES -  
CORRESPONDENCE DATED 6/18/2013  
U.S. FISH & WILDLIFE SERVICES - CORRESPONDENCE DATED 8/5/2013  
INDIANA BAT SURVEY REPORT (On CD)**



RECEIVED  
JUN 21 2013  
ENGINEERING DIVISION  
WV DOH

**DIVISION OF NATURAL RESOURCES**  
Wildlife Resources Section  
Operations Center  
P.O. Box 67  
Elkins, West Virginia 26241-3235  
Telephone (304) 637-0245  
Fax (304) 637-0250

Earl Ray Tomblin  
Governor

Frank Jezioro  
Director

June 18, 2013

Mr. Ben Hark  
Division of Highways  
1900 Kanawha Boulevard, East  
Building Five, Room 110  
Charleston, WV 25305-0430

Dear Mr. Hark:

We have reviewed our files for information on rare, threatened and endangered (RTE) species and natural trout streams for the areas of the proposed highway projects:

LW	State Project S210-41-6.68 Federal Project BR-0041(071)D Laurel Creek Bridge Fayette County	Our records indicate no known occurrences of RTE species or natural trout streams at this site.
JE	State Project 26-34-5.07 Marshall CR 34 Bank Stabilization Marshall County	Our records indicate no known occurrences of RTE species or natural trout streams at this site.
SM	State Project U331-79-153.30 Federal Project NHPP-0793(238) New I-70 Interchange Between Westover & Star City Interchanges Monongalia County	Our records indicate no known occurrences of RTE species or natural trout streams at this site.

The Wildlife Resources Section knows of no surveys that have been conducted in these areas for rare species or rare species habitat. Consequently, this response is based on information currently available and should not be considered a comprehensive survey of the areas under review.

Thank you for your inquiry, and should you have any questions please feel free to contact me at the above number, extension 2048.

Sincerely,

Barbara Sargent  
Environmental Resources Specialist  
Wildlife Diversity Unit



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

1900 Kanawha Boulevard East • Building Five • Room 110  
Charleston, West Virginia 25305-0430 • (304) 558-3505

Earl Ray Tomblin  
Governor

RECEIVED  
JUN 17 2013  
WVFO

Paul A. Mattox, Jr., P. E.  
Secretary of Transportation/  
Commissioner of Highways

June 13, 2013

Mr. John Schmidt  
Supervisor  
U.S. Fish and Wildlife Service  
West Virginia Field Office  
694 Beverly Pike  
Elkins, WV 26241

Dear Mr. Schmidt:

State Project: U331-79-153.30  
Federal Project: NHPP-0793(238)  
New I-79 Interchange  
Between Westover and Star City Interchanges  
Monongalia County

Please be advised the West Virginia Division of Highways has initiated NEPA studies for the above referenced project. As we begin this process, we request your early input as to any concerns your agency may have regarding this project.

This project consists of the providing a new interchange on I-79 approximately halfway between I-79, at Exit 152 – US 19 Westover/Morgantown (Granville) and I-79, Exit 155 – WV 7 West Virginia University (Star City/Osage/WVU Football Stadium) exits. The proposed project will tie the interchange into two new frontage roads, connecting a relocated County Route 46/3 to the west and an extension of University Town Centre Drive to the east of I-79 including the new proposed WVU Athletic Facilities.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

West Virginia Field Office  
694 Beverly Pike  
Elkins, West Virginia 26241



In response to your letter above, we have made a "no effect" determination that the project will not affect federally-listed endangered or threatened species. Therefore no biological assessment or further section 7 consultation under the Endangered Species Act is required with the Fish and Wildlife Service. Should project plans change, or if additional information on listed and proposed species becomes available, this determination may be reconsidered.

Definitive determinations of the presence of waters of the United States, including wetlands, in the project area and the need for permits, if any, are made by the U.S. Army Corps of Engineers. They may be contacted at: Pittsburgh District, Regulatory Branch, William S. Moorhead Federal Building, 1000 Liberty Avenue, Pittsburgh, Pennsylvania 15222-4188, telephone (412) 395-7152.

*E. Howard*  
8/5/2013  
Reviewer's signature and date

*Bruce Douglas*  
8/5/13  
Field Supervisor's signature and date

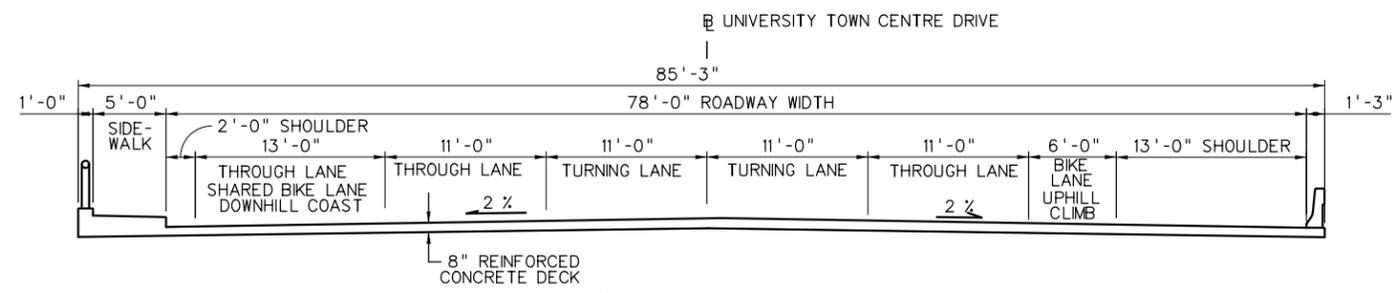
**APPENDIX F (on CD)**

**HAZARDOUS MATERIALS ASSESSMENT REPORT**

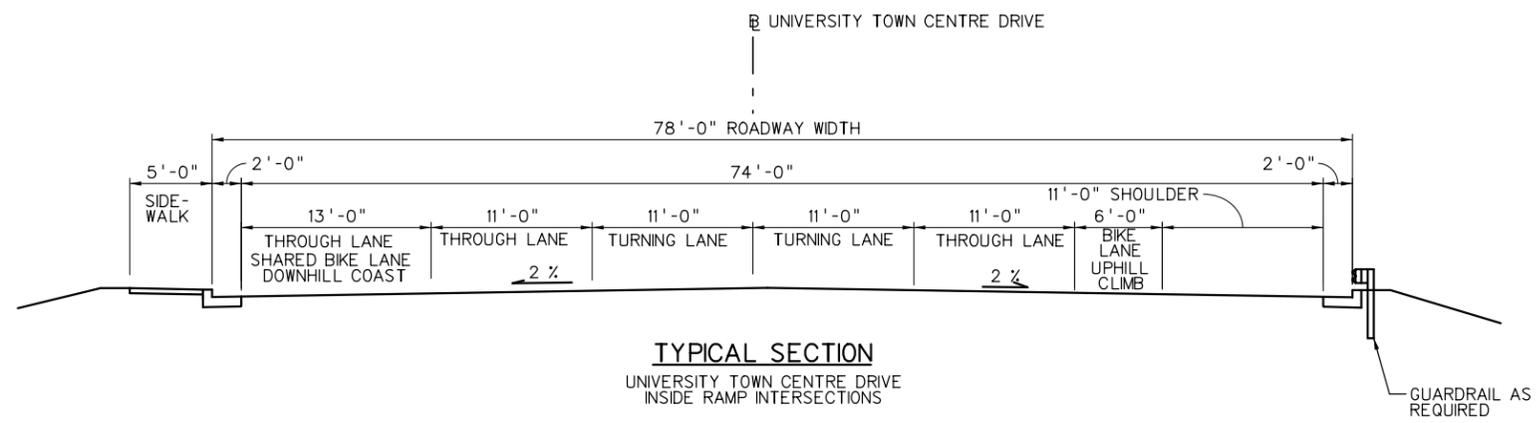
**APPENDIX G**

**TYPICAL CROSS SECTIONS OF ROADWAYS**

Public Roads Div.	State Dist. No.	State Project No.	Federal Project No.	Fiscal Year	County	Sheet No.	Total Sheets
W. V.	4	U331-79-153.30 00	NHPP-0793 (238)	2014	MONONGALIA	G3	G110

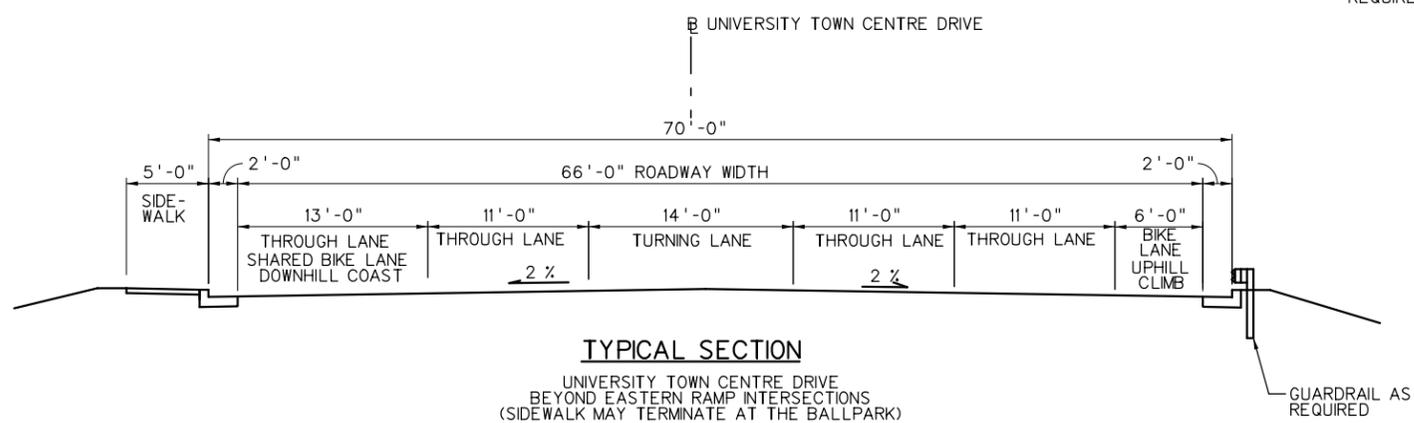


**BRIDGE TYPICAL SECTION**



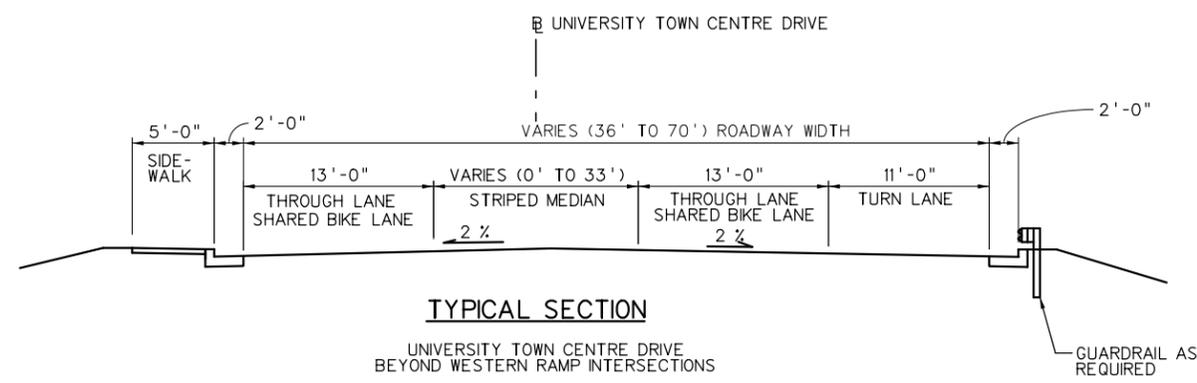
**TYPICAL SECTION**

UNIVERSITY TOWN CENTRE DRIVE  
INSIDE RAMP INTERSECTIONS



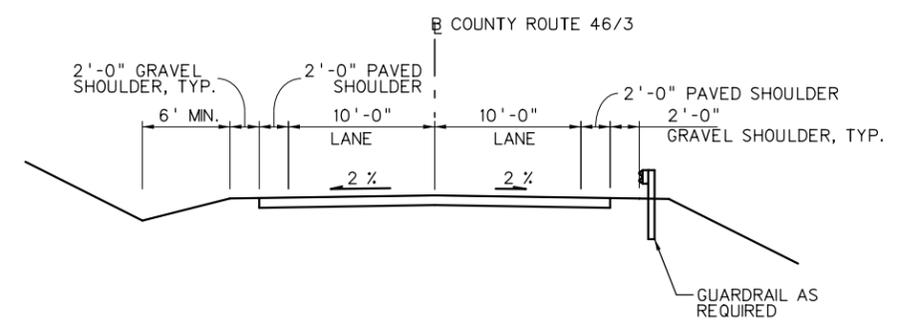
**TYPICAL SECTION**

UNIVERSITY TOWN CENTRE DRIVE  
BEYOND EASTERN RAMP INTERSECTIONS  
(SIDEWALK MAY TERMINATE AT THE BALLPARK)

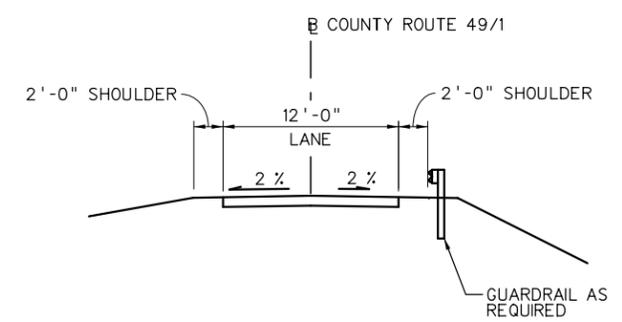


**TYPICAL SECTION**

UNIVERSITY TOWN CENTRE DRIVE  
BEYOND WESTERN RAMP INTERSECTIONS



**COUNTY ROUTE 46/3 TYPICAL SECTION**



**COUNTY ROUTE 49/1 TYPICAL SECTION**



THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

ALTERNATIVE 2  
**TYPICAL SECTIONS**

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY